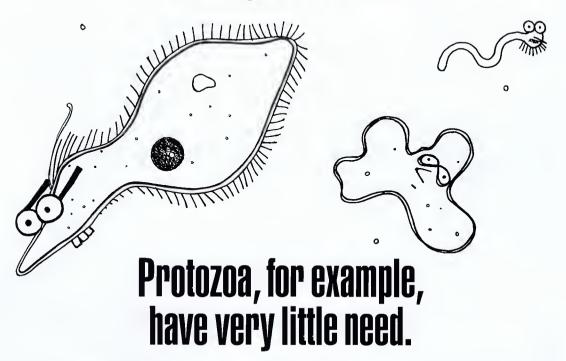


We're not saying everyone should own a Digi-View Gold...



Only one product has captured the imagination of Amiga users around the world: Digi-View Gold. It's the most award winning, best-selling and most used Amiga hardware product of all time. When Amiga owners want to digitize graphics they use Digi-View Gold. Period. In fact, we've probably sold more Digi-Views than any other digitizer on any PC in history.

Here's your chance to bring the world into your Amiga. Simply focus your video camera on any object or picture, and in seconds Digi-View Gold turns it into Amiga graphics that glow with vibrant color and stunning clarity. Whether you are creating graphics for desktop publishing, presentations, video, or just for fun, Digi-View Gold makes dazzling images perfectly simple.

Digi-View Gold is designed specifically for the Amiga 500 and 2000, and plugs directly into the parallel port. With complete software control of color saturation, brightness, sharpness, hue, resolution, and palette, advanced image processing is as easy as adjusting the controls on your television.

Only Digi-View Gold:

- Has exclusive Dynamic HiRes mode for 4096 colors in HiRes
- Digitizes in all Amiga resolution modes from 320x200 up to 768x480 (full HiRes overscan)

- Uses 2 to 4096 colors (including halfbrite)
- Digitizes in 21 bits per pixel (2.1 million colors) for the highest quality images possible
- Has advanced dithering routines that give an apparent 100,000 colors on screen simultaneously
- Comes with an icon driven slideshow program for presentations using both IFF and Dynamic images
- Offers an unprecedented lifetime warranty and toll-free support line

If you want the best pictures possible on your Amiga, then you need the best selling video digitizer of all time: Digi-View Gold.



Only \$199.95

Digi-View Gold is available now at your local Amiga dealer. Or call **1-800-843-8934** or **1-913-354-1146**



The Amiga Video Digitizer INCORPORATE

Requires standard gender changer for use with Amiga 1000. Dynamic HiRes requires 2 megs of RAM. Digi-View Gold is a trademark of NewTek, Inc.

SHOWMA

EXCITING VIDEO PRODUCTIONS IN SIX EASY STEPS!

Business, Education, Presentation.Whatever your message, bring it to life with ShowMaker. With ShowMaker and your Amiga, it's easy to combine graphics, animation, video, sound, and even animated titles to make your own video productions. Or live multimedia presentations. So whether you're creating the next Hollywood blockbuster or a sales or training tape, ShowMaker gives you the tools to make it happen. And it's as easy as 1, 2, 3...



SEQUENCE ANIMATION AND GRAPHICS

Simply drag out segments on ShowMaker's unique time-line interface. The length indicates the duration over which the the animation or graphic will play. ShowMaker automatically loads the files as needed, without interrupting the playback of the current animation. This means long running productions, limited by disk space, not RAM. ShowMaker also features dozens of built-in transitions, including wipes, fades, and dissolves, and is compatible with most ANIM



Create dynamic soundtracks just as easily. Just drag out segments to the lengths you want on any of the Music or Sound Effect Tracks, ShowMaker supports MIDI output, MIDI files, and SMUS formats. ShowMaker's unique auto-sync feature* ensures that your video always remains synchronized to the music!





ShowMaker gives you control over genlocks, videodisc players, and VCRs, Just tell ShowMaker when to cut in your video, and it will automatically seek to the correct position and fade in the genlocked signal at exactly the right time.**



If you have a Video Toaster, you need ShowMaker to bring out its full potential. ShowMaker lets you easily control the Toaster and integrate it's effects into full productions.



Add titles to your production easily with

ShowMaker's built-in video titler. You can even run titles on top of Amiga animations and graphics, and overlay the results on video. ShowMaker includes a collection of high quality video fonts and backgrounds.

The Complete Desktop Video Solution

PREVIEW AND FOIT

With ShowMaker you can preview your production at any time during its development. Then quickly and easily adjust, cut, copy, and paste tracks until your show is perfect. ShowMaker will even generate storyboards and cue sheets to help you visualize and fine tune your production.

PLAY IT!

You're done! Hit the play button and ShowMaker will play back your production in real time, automatically synchronizing the video, animation, soundtrack, and titling. A true multimedia presentation. Record your production to videotape for a first generation Master Tape!

ShowMaker is the first program with:

- Intelligent autoloading of animations and
- Animation playback synchronized to music in frames-per-beat*
- Video titling over Amiga animation and
- Synchronized music and animation to external clocks (SMPTE/MTC)

ShowMaker also features:

- · Complete control of genlock functions**
- · MIDI command and file support
- Full ARexx support
- · Wait-for-click interactivity
- Production looping
- Volume fading
- Storyboarding
- · Cuesheet generation
- Use ShowMaker with AmigaVision
- Multiple wipes, reveals, and transition effects between animations and still pictures.



P.O. Box 789, Streetsville

Mississauga, Ontario, Canada L5M 2C2 (416) 602-4000

*Patent pending
**Additional hardware required
This document created entirely in Professional Page 2.0



\cdot C \cdot O \cdot N \cdot T \cdot E \cdot N \cdot T \cdot S \cdot

D	U	A	m	TI	D	D	0
r	P ₁	I		1	\mathbf{r}	P ₄	. 7

CDTV: BIRTH OF A NOTION? By Doug Barney	20
With Commodore now rolling out its long-announced Amiga-based CD	
player, interactive multimedia may fi- nally find a mass audience. Full de-	
tails and a Buyer's Guide to CDTV	
titles in this AmigaWorld Special Report.	

ARTICLES

ANIM TAMERS By Gene Brawn	30
If your animation files are gobbling	
up precious disk-storage space and	
memory at an alarming rate, check	
out these 15 economical tips for	
"squeezing" ANIM files into more	
manageable proportions.	

When it comes to inefficiency and waste in organizing system resources, the fault may lie, as Cassius pointed out to Brutus, "not in our stars, but in ourselves." Take the cure with these productivity-boosting hints, techniques, and handy utilities.

COLUMNS

6

CHIEF CONCERNS By Doug Barney
The Amiga Developers' Association is
gearing up for its second year of op-
eration with a new campaign to put
the Amiga squarely on the map and
in the forefront of advances in com-
puter technology.

Applying good, sound design principles from typography and presentation graphics pays off handsomely when creating text screens for your multimedia shows.

tation as finished artwork.



Amiga CD in the comfort of your living room? Commodore's new A500-based CD system plays CDTV titles (see our Buyer's Guide), regular audio CDs, and the new CD+Graphics discs. Also this month: Tips, techniques, and programs for greater productivity from your Amiga.

DEPARTMENTS

OVERSCAN	. 8
We've rolled our coverage of news	
("Headliners"), new products	
("What's New?"), and the Amiga nets	
("PD Prospector") into one new and	
larger monthly column. If it's new or	
if it's news, you'll find it all in "Over-	
scan" each and every month.	
AW SHUCKS!	80
If we find that we've goofed on items in a previous issue, you'll see the cor-	
rection right here.	
rection right here.	
HELP KEY	86

HELP KEY
AW's Answer Man is always ready
when it comes to solutions to your
technical teasers.

AW PRODUCT INFORMATION . . . 88 Information for contacting developers of products covered in each issue is now presented in one central "Manufacturers'/Distributors' Addresses" list.

THE LAST WORD	96
We've decided to give you the final say	
from now on. "Repartee" gets a new	
name, as letters from readers take	
over the back page each month.	

REVIEWS

PROFESSIONAL PAGE 2.0 (Gold Disk)	14
IMAGINE (Impulse)	15
IMAGE FINDER (Zardoz) Database/indexer for graphics files.	76
TRANSWRITE (Gold Disk) and QUICKWRITE (New Horizons) Bare-bones word processing from the Transcript and ProWrite camps,	78

GAMES CRIB NOTES By Peter Olafson

respectively.

"Shadow" savers, Lemmings lifelines, and more from the gamesmeister.
LEMMINGS (Psygnosis)
BAT (UBI Soft / Electronic Arts) 5 Challenging sci-fi graphics adventure.
WOLFPACK (Broderbund) 6 U-Boats and convoys in a WWII simulation.
WARLORDS (Strategic Studies) 7 Fantasy and strategy combined in a neat war game.

AMIGAWORLD CATALOG

AmigaWorld Special Products are now presented in one handy catalog section: AW Videos (including Animation Video II and The Video Toaster), Tool Chest, AW Game Package, Tech Journal, AW Books, and more. Plus free special-incentive bonus with all orders. Pages 64–67.

New! Redesigned and FAAASTER

50MHZ 68030 POWER

Now Expandable to 32MB of 32-bit RAM!



- Optional 3.5" IOE/AT hard disk up to 340MB capacity (13ms).
- Built-in Autobooting IOE/AT hard disk controller.
- 4MB to 32MB of 32-bit wide High Performance memory.
- 50Mhz 68030 CPU and 50Mhz 68882 Floating Point Unit.

Our new faster and more expandable A3050 50Mhz accelerator kit will turbo-charge your Amiga 2000® beyond your wildest dreams.

Check out these features:

- ✓ Uses GVP's new custom designed 4MB, 32-bit wide, SIMM32™ memory modules with state-of-the-art 4MB, 60ns, DRAMs.
- ✓ ZERO SLOT SOLUTION! Even with a full-blown 32MB, 50Mhz, A3050 kit installed in the A2000's "CPU" slot, ALL ZORRO II expansion slots are left free for unlimited future expansion!
- Exciting new 3.5" hard disk "bundles". Choose between the 1" high, 120MB (15ms) model or the incredible halfheight 340MB (13ms) model.
- ✓ Converts an A2000 into the fastest Amiga in the world. There is truly NO competitive product,
- √ 68000 fall-back mode for timing sensitive applications (e.g.; some games).
- ✓ GVP is the world's leading manufacturer of accelerator products for the Amiga.



GVP is a trademark of Great Valley Products, in Amiga and A2000 are registered trademarks of Commodore-Amiga, Inc.

GREAT VALLEY PRODUCTS INC. 600 Clark Avenue, King of Prussia, PA 19406

For more information, or for nearest dealer, call today. Dealer inquiries welcome.

Tel. (215) 337-8770 • FAX (215) 337-9922

Dealers Circle 77 on Reader Service card.

Consumers Circle 201 on Reader Service card.

STEPHEN ROBBINS, Publisher

DOUGLAS BARNEY, Editor-in-Chief DANIEL SULLIVAN, Executive Editor SWAIN PRAIT, Managing Editor BARBARA GEFVERT, Senior Editor JANINE L. JACKSON, Review Editor

LOUIS R. WALLACE, Senior Editor, Technology; Special Products Manager
LINDA BARRETT LAFLAMME, Editor, The AmigaWorld Tech Journal
TIM WALSH, Technical Editor

JOHN WOLFSKILL, Senior Writer, Technology
MARE-ANNE JARVELA, Special Products Coordinator

GENE BRAWN, DAVID T. McCLELLAN, Contributing Editors

HOWARD G. HAPP, Art Director

LAURA JOHNSON, Assistant Art Director

ANN DILLON, Designer

ALANA KORDA, Production Supervisor

DEBRA A. DAVIES, Typographer

KENNETH BLAKEMAN, National Advertising Sales Manager
MICHAEL MCGOLDRICK, Sales Representative
BARBARA HOY, Sales Representative
HEATHER GUINARD, Advertising Sales Representative,
Partial pages & InfoMarket, 1-800-441-4403, 1-603-924-0100
MEREDITH BICKFORD, Advertising Coordinator
GIORGIO SALUTI, Associate Publisher, West Coast Sales, 1-415-363-5230
2421 Broadway, Suite 200. Redwood City. CA 94063

WENDIE HAINES MARRO, Marketing Director LAURA LIVINGSTON, Marketing Coordinator MARGOT L. SWANSON, Customer Service Representative; Advertising Assistant LISA LAFLEUR, Business and Operations Manager

LISA LAFLEUR, Business and Operations Manager MARY MCCOLE, Video Sales Representative

SUSAN M. HANSHAW, Circulation Director, 1-800-365-1364
PAM WILDER, Circulation Manager
LYNN LAGASSE, Manufacturing Manager



ROGER J. MURPHY, President

NANCY GENDRON, Assistant to the President
PAUL BOULE, Vice President/Group Publisher
JIM MCBRIAN, Vice President/Group Publisher
STEPHEN C. ROBBINS, Vice President/Group Publisher
DENNIS S. CHRISTENSEN, Vice President of Manufacturing/Operations
BONNIE WELSH-CARROLL, Director of Corporate Circulation & Planning
JEFFREY D. DETRAY, Director of Technology Research
LINDA RUTH, Single Copy Sales Director
DEBBIE WALSH, Newsstand Promotion Manager

WILLIAM M. BOYER, Director of Credit Sales & Collections

DOREEN MEANS, Systems Coordinator

Amiga World (USN 0888-2390) is an independent journal not connected with Commodore Business Machines, Inc. AmigaWorld is published monthly by IDG Communications/Peterborough, Inc., 80 Elm St., Peterborough, NH 03458. U.S. subscription rate is \$29.97, one year; \$46.00, two years; \$64.00, three years. Canada \$38.97 (U.S. funds), one year only. Mexico \$38.97, Foreign Surface \$49.97, Foreign Airmail \$49.97, Foreign Surface and Airmail subscriptions in U.S. funds drawn on U.S. bank). All rates are one-year only. Second-class postage paid at Peterborough, NH, and at additional mailing offices. Phone: 603-924-0100. Entire contents copyright 1991 by IDG Communications/Peterborough, Inc. No part of this publication may be printed or otherwise reproduced without written permission from the publisher. Postmaster: Send address changes to AmigaWorld. Subscription Services, PO Box 58804, Boulder, CO 80322-8804. Nationally distributed by Kable News Co., AmigaWorld makes every effort to assure the accuracy of articles, listings and circuits published in the magazine. AmigaWorld assumes no responsibility for damages due to errors or omissions.

Beauty and Functionality Redefined

THE NEW SERIES IT A500-HD+

The Next Generation in Amiga® 500 Add-On Peripherals

IMPACT Turn your A500® into a Serious and More Fun Computing Tool Today!

> GVP's New SERIES II A500-HD+ is The Ultimate in Hard Drive, Memory and Expandability for your Amiga 500. Major features include:

Leading Edge

Same high-tech custom VLSI and FAAASTROM™ features as GVP's new Series II A2000 SCSI-RAM Products.

Foresight

Unique new "Mini-Slot"™ brings out all the A500 expansion bus signals, allowing for exciting future expansion options - the only intelligent alternative to risky "Pass-Through" functionality.

Reliability

Includes internal fan to keep you cool and robust power supply ensuring your A500 power supply will not be overloaded. GVP will not compromise on quality and reliability!

Memory Expansion Internal RAM Expansion up to 8MB using easy-to-install SIMM memory modules.

Sleek

Custom injection-molded styling perfectly matches your A500 for unequaled beauty and elegance, setting a new standard for A500 peripherals.

State-of-the-Art

New 1"-high internal hard disk drive; available from 40MB through 100MB.

Performance

Provides no-compromise hard disk performance which until now has never been seen on the A500.

Seeing is Believing

Take one for a Test "Drive" at your nearest GVP Dealer today!

> Call for Special End-User Trade-Up Details!



SCSI devices to be attached.

1"-High Factory-installed Hard Oisk Drive: 40MB through 100MB.

"Mini-Slot": For future expansion options.

GVP's Custom VLSI Chip.

GVP's FAAASTROM SCSI Oriver.

Internal RAM Expansion: Up to 8MB

Internal Fan: Keeps you running cool.

Oedicated Universal Input Power Supply: Included.

Reinforced 86-PIN Card Edge Connector



Educational pricing program now available. Series II, FAASTROM and GVP are trademarks of Great Valley Products, Inc. Amiga and A500 are registered trademarks of Commodore-Amiga, Inc.

GREAT VALLEY PRODUCTS INC. 600 Clark Avenue, King of Prussia, PA 19406

For more information, or for nearest dealer, call today. Dealer inquiries welcome.

Tel. (215) 337-8770 • FAX (215) 337-9922

Consumers Circle 127 on Reader Service card.



CHIEF CONCERNS

Hip, Hip, ADA!

WHEN I GOT here a couple of years ago, the lack of respect for the Amiga got me hotter than a yuppie in a jacuzzi. Amiga users hadn't exactly stood still for this type of treatment. In fact, most had done their share of R&R (ranting and raving).

Unfortunately, all this energy lacked direction, and your complaints were all too easy to ignore. The situa-

tion clearly would not do.

So a bit over a year ago, the Amiga Developers' Association was launched as a concerted effort to correct the Amiga's credibility ills. In its first year, the ADA established itself as a legal organization in all 50 states, thus setting the stage for a long and hopefully glorious future.

A new board has recently been established, and its first meeting took place with the help of an AT&T operator and some of its swell conference-

call technology.

This year's ADA board is raring to go. The new chairperson is Al Hospers, the energetic head of Dr. T's, the music software maker. The 1st vice-chairperson is Melissa Jordan Grey, who, as president of Blue Ribbon SoundWorks, has ignored competitive instincts to work alongside Al.

Our 2nd vice chairperson is Perry Kivolowitz, who, as head of ASDG, launched the acclaimed Art Department series and who happens to have great taste in Italian restaurants. The secretary is Debbie Miller, from New Horizons, of graphics software fame, and our treasurer is Jerry Wolosenko, of Psygnosis, the well-known game extremists.

Associate members of the board include Joe Lowery, of AMI Shows, Inc., Bob Wolter of Micro-Pace, and yours truly of *AmigaWorld*.

I'll be the first to admit the ADA is a small organization. The membership is tiny, the coffers nearly empty, and it lacks a professional support staff. But size isn't everything. Focus is. In order to be effective, the ADA has honed its focus into a single goal; to promote the Amiga. And in this, I believe the ADA will be remarkably successful

The timing couldn't be better. First, the Amiga's ascendancy in multimedia and its penetration into the video fields have given the machine credibility. We've got Mac users drooling (more than usual), for goodness' sake! And the press has clearly taken notice.

Second, Commodore's new American chief, Jim Dionne, has already broadened distribution, added greater support for small dealers, and worked to lower the price and increase the prestige of the A500, which will turbo-charge that side of the market. Jim had the Amiga going gangbusters in Canada, and there is no reason he can't do it here, especially with all of us behind him.

And with CDTV about to blow, we've got the big boys like Tandy, Microsoft, and Philips on the run.

Finally, readers of Amiga publications have done their part. Nearly every day I get copies of magazines that include letters from readers demanding more Amiga coverage. A recent issue of *Publish!* ran one such letter and then pledged to cover the Amiga more aggressively. Hey, we've got these folks primed!

To maintain the pressure, the ADA is already at work on position papers to be sent to the computer press, and is putting together a major membership drive. It also plans to communicate with its members through a regular newsletter. But most of all, it plans to lobby for our system, so that a decade from now we can load DPaint 12, which will control our Video Microwave on our tried-and-

true, 68090-based Amiga 18000.

For those interested in joining ADA, the commitment is fairly serious. The dues are \$150 per year, and for that amount of cash you don't get an accelerator board, extra memory, or even a free subscription to Amiga-World. Instead, when you take that leap of faith, you are investing in your market.

But dues are not the biggest burden. The ADA asks members to get involved: To help define this technology, round up innovative uses for profiles in mainstream publications, and nicely but relentlessly badger the unenlightened press until it gives the Amiga its due.

You don't have to join the ADA to help in this effort. On your own, you can write, call, or even fax publications that should, but don't, currently cover the Amiga. After all, aren't you dying to see DPaint 12?

If you would like to join the ADA, you can get an application and more information by writing:

ADA Membership Drive c/o Jerry Wolosenko Psygnosis 29 St. Mary's Court Brookline, MA 02146

And to all those who have sent off letters on the Amiga's behalf, many thanks! ■

The Ultimate All-in-One Amiga 2000 Add-on...

68030 POWER+16MB RAM+SCSI CONTROLLER

Replaces up to FOUR "normal" expansion boards!

IMPACT Series II Now, a 22 or 33 Mhz 68030 accelerator board, up to 16MB of 32-bit wide RAM and a high-performance SCSI hard disk controller in a single A2000® "CPU slot" expansion board!



GVP All-in-One Board +SCSI Orive Installed

Check out these features:

- √ The perfect companion for New Tek's Video Toaster.™
- √ 22Mhz or 33Mhz factory installed. surface mounted, 68030 CPU and 68882 FPU.
- ✓ Up to 16MB of 32-bit wide memory expansion, 4MB minimum factory installed memory on 33Mhz version, 1MB minimum for 22Mbz
- ✓ GVP's new custom 32-bit wide, 1MB or 4MB, SIMM32™ memory modules offer flexible, easy-to-install memory expansion. 22Mhz model has 1MB factory installed memory, expandable to 13MB. 33Mhz model has 4MB factory installed memory, expandable to 16MB.
- ✓ On-board high-performance "Series II" auto-booting SCSI controller with factory installed FAAASTROM SCSI driver and SCSI connectors for attaching both external and internal SCSI peripherals.
- √ Direct DMA access to the full 16MB range of 32-bit wide memory expansion by the on-board SCSI controller. Due to the A2000 bus architecture, this is ONLY possible when SCSI controller is placed directly on the 68030 CPU bus (as is

the case with the A3000!). Provides ultimate SCSI hard disk performance!

- ✓ GVP's legendary FAAASTROM SCSI driver supports virtually all SCSI devices currently on the market, including hard disk drives, CD-ROM drives, Magneto-Optical drives, removable media drives and tape drives.
- Switch to 68000 mode by simply clicking on our new "68000 Mode" Icon, or include our special "mode switching" utility in your startupsequence and select required mode each time system is rebooted, by holding down mouse buttons.
- Provides the ultimate expandability of your A2000 system. Plugs into the "CPU accelerator" slot, thereby leaving ALL FIVE A2000 expansion slots free for future expansion.

Internal SCSI **Built-in GVP Hard Orive** Series II OMA (3.5" available SCSI Controller up to 340MB!) Surfacemounted 68030 CPU and 6BBB2 FPU (22 or 33Mhz) Connector for external SCSI peripherals Up to 12MB of 32-bit wide, User-installable 1MB (22Mhz) or SIMM32 Memory 4MB (33Mhz) Expansion Surface-mounted 32-bif wide



Memory

	COMPARE:	A2000 +GVP All-in-One	Commodore A2500/30	Commodore A3000®
ı	68039 CPU and 68882 FPU	Υ	Y	Y
	Maximum CPU clock speed available & shipping TDDAY	33Mhz	25Mhz	25Mhz
	Maximum 32-bit wide FAST memory on 68030 CPU board	16MB	4MB	16MB
	Direct DMA access to more than 8M8 of fast memory	Υ	N	Y
	DMA SCSI controller built-in on 68030 CPU board	Υ	N	Y
	Number of open Amiga expansion slots with 68030 CPU, SCSI controller and more than 4M8 last memory installed	5	3	4
-	RAM upgrades through easy-to-install 32-bit wide SIMM memory modules	Υ	N	N



SIMM32 and GVP are trademarks of Great Valley Products. Inc. Amiga, A2000 and A3000 are registered trademarks of Commodore-Amiga, Inc. Video Toaster is a trademark of NewTek Inc.

GREAT VALLEY PRODUCTS INC. 600 Clark Avenue, King of Prussia, PA 19406

OVERSCAN

News, New Products and Networks

AMIEXPO NEW YORK: FUN, NO GAMES!

NEW YORK, N.Y.-While green-vested celebrants indulged in shenanigans along 5th Avenue in honor of St. Patrick's day, a more subdued kind of fun was going on a block away. AmiEXPO, held March 15-17 at the New York Hilton, offered plenty of fun-but no games. Although market observers have witnessed the Amiga's upwardiy-mobile trend for a long time, many could not guite believe what they saw: For the first time, not one game was to be found among the displays at an Amlga show! The closest thing to a graphics adventure or shoot-'em-up was the announcement of Oxxl/Aegis's Interactive game-programming language, Aegis Visionary (\$99.95), with over 60 commands specific to gaming. (RS# 562).

What took the place of the game demos that were present at earlier Amiga shows? Video-equipment displays by such companies as JVC (RS# 551) and NEC (RS# 552)—both of which were, appropriately, near NewTek's huge Video

Toastar exhibit (RS# 553). JVC Regional Manager Jim Turner told me that he was there mainly to check out the emerging Toaster-led Amiga video market and to see how JVC products can fit in.

ASDG (RS# 559), betting on a great fit, is developing support for JVC's yet-to-be-released BR-S605U edit deck (scheduled to retall between \$2200 and \$2600) via a module for the Art Department Professional image processor. NEC was nestled in with Activa Circuits, which has developed an Amiga interface for NEC's PC-VCR, a frameaccurate unit for creating and editing presentations and applications.

Active Circuits (RS# 554) also demonstrated a transportable Video Arts Teleprompting System In addition to two new modules for its RasterLink (formerly imageLink) Image-conversion software. One is TGALink, which allows control of Truevision's Targa and ATVIsta frame

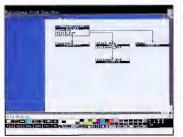
Continued on p. 12.



If, as Motorola claims, its 25-MHz 68040 processor is faster than Intel's 25-MHz 80486 processor, and if, as GVP claims, its 50-MHz 68030 board for the A2000 runs faster than a 25-MHz 68040, then an Amiga equipped with the 50-MHz 030 is faster not only than the fastest IBM PC or PC clone (which use the 25-MHZ 486), but also than the fastest Macintosh (which uses a 42-MHz 68030)! Zowie!

SBPRO 4 BREAKS WINDOWS

The long-awaited SuperBase Professional 4 (\$495; upgrade from SBPro 3, \$149) has finally stepped onto the showroom floor. This all-new Precision release has a MicroSoft Windows look. That's no accident, as SBPro 4 can now import and export. DBF (dBASE), WKS (Lotus 1-2-3), and .XLS (MicroSoft Excel) files, read dBASE .DBF data directly, and output from existing



SBPro 4's snappy new Forms Designer.

dBASE databases without conversion.

Precision's data-management giant has room for a whopping one billion records, and its text fields can handle 4000 characters. Other improvements include logical, real, long, and integer fields, more image formats, and a graphical labels facility. In addition, the program can retrieve and play sound samples as data, so you can incorporate voice mail or voice annotation in database applications.

The new Forms Designer—probably the flashiest change in the package—features optional rules and a snap-togrid, WYSIWYG layout. The refurbished toolbox provides access to a wide range of object types and attributes. These include check boxes and "radio" buttons that you can attach to data fields or variables, and push buttons for executing command strings written in Superbase's Database Management Language (DML).

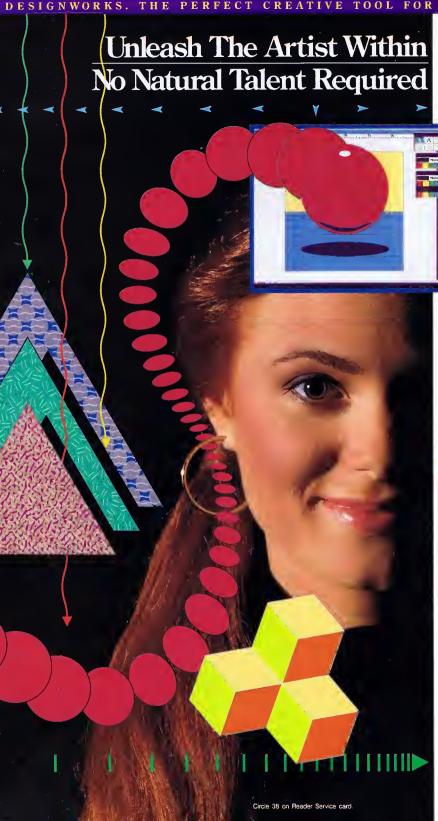
ON SALE!

Concurrent with other changes in West Chester, Pennsylvania, these days, Commodore has slashed suggested retail prices of A2000- and A3000-series computers. Along with the CPUs, expansion-board prices also felt the knife.

A stock A2000 that soid for \$1895 now sports a \$1599 price tag. The A2000HD experienced the largest percentage price reduction in CPUs, with a drop from \$2699 to \$1999. Other markdowns include the A2500/30 (\$4699 to \$3799), A3000-16/50 (\$3299 to \$2999), A3000-25/50 (\$3999 to \$3499), and the A3000-25/100 (\$4999 to \$4699).

If you have been holding back from buying Commodore expansion boards, these reductions may change your mind: The A2630 68030 accelerator board that originally sold for \$1999 is now \$1799, and the A2058 8MB RAM board—populated with two megabytes—dropped from \$649 to \$349. The MS-DOS-compatible A2088D XT and A2286 AT Bridgeboards went from \$699 to \$499, and \$1599 to \$799, respectively. Finally, the A2300 internal genlock fell from \$299 to \$169, the A2091 autoboot hard-drive controller dropped from \$399 to \$199, and the A1680 1200-baud external modem that once sold for \$99 is now \$59.—]]

For information about the vendors of products mentioned, see "Manufacturers'/Distributors' Addresses" list on p. 88.



Put DesignWorks To Work For You

If you've been looking for a fast, easy-to-use, high quality structured drawing program, look no further. Now you can unleash the artist within with DesignWorks, the structured drawing program de-

signed for the Amiga mind.

Creativity In The Fast Lane

DesignWorks is built for speed. No longer are slow and cumbersome programs needed to achieve professional results. DesignWorks is the ultimate in simplicity, with a responsive interface and design set.

The Highest Form Of Self-Expression Is Now The Least Expensive

DesignWorks costs far less than you would expect from a structured drawing program with this much speed and flexibility. With a Bezier smoothing algorithm, unlimited numbers of drawing layers, flexible text handling system and user-definable multi-color patterns, you don't need to be a professional engineer or CAD programmer to achieve quality results. And high resolution printing means you get near-PostScript quality output from your dot matrix printer.

Stop by your local Amiga dealer to see DesignWorks in action.

DRAW YOUR OWN CONCLUSIONS

Fast and intuitive structured drawing Create lines, rectangles, ovals, polygons, and

freehand objects

Smoothed (Bezier) curves

Optional arrows on lines Duplicate, rotate, flip, and scale objects

Text with multiple fonts, sizes, styles, and colors

Import/export 1FF pictures Automatically align objects relative to each other

Automatic grid snap

Group objects together

Variable line thickness Customizable multi-color fill patterns

Multiple drawing layers

AREXX port

Macros, when used with AREXX

Magnified and reduced view

Drawing up to 100 inches by 100 inches in size Up to 10 drawings open at the same time

Inch or centimeter rulers

Near-PostScript quality printing on dot-matrix printers, full 4096 color printing Complete printer control, including sideways

printing Fully customizable

Full support for Kickstart 2.0

Requires Kickstart 1.2 or later and 512K of memory

Suggested retail price: \$125.00



206 Wild Basin Road, Suite 109 Austin, Texas 78746 (512) 328-6650 Amuga[®] is a registered trademark of Commodore Business Machines, Inc. DesignWorks[™] is a trademark of New Horizons Software, Inc.

4-D VIDEO

Draw4D-Pro (\$349) is its name; structured drawing and animation is its game. Like its predecessor, Draw4D, Pro is designed for use in both desktop publishing and video. Its emphasis, however, is on video. This latest Adspec Programming offering saves IFF pictures in all modes from two to 4096 colors, in regular, overscan, and severe (ouch!) overscan.

Adspec implemented features from Draw4D but added some enhancements: You can now use any IFF bitmap as a texture to wrap, project, or tile. You can also use any number of lights; assign color, intensity, and sphere of influence to lights; and assign Gouraud shading Independently to any polygon.

The program's new eyepath control allows adjustment so that you get a through-the-lens view of the environment. You can then alter



Draw4D-Pro can save in IFF-24 format.

that environment with the touch of a key.

Draw4D-Pro lets you save your rendered views in 16,777,216 colors as IFF-24 files.

— []

A LITTLE LUNACY

There are a lot of Lemmings (Psygnosis, \$49.99) in this game and they are incredibly proficient at getting into trouble. These hapless creatures climb, parachute, block, dig, and explode their way through 120 different levels while you keep them from doing away with themselves. The problem is that there are about 100 of them to begin with and more and more keep dropping in. Each level has a time limit, so you must keep your Lemmings busy. . . before it's too late.



OVERHEARD

Rumor has it that management at Egghead Software, a national computer chain, is considering clearing its shelves of Apple 1IGS software and replacing it with . .you guessed it, Amiga software. When Amiga World contacted Egghead, no comment was offered on the matter.

CHOOSE YOUR BATTLEGROUND

Whether you are in the mood for one battle or an entire campaign, **Typhoon of Steel** (\$59.95) has you covered. A sequel to the World War II adventure, Panzer Strike!, Typhoon of Steel lets you choose between the Pacific, Asian, and European theaters of war. Your

arsenal is packed with just about every ground weapon available at the time—from tanks, tank destroyers, and artillery to trucks, mortars, and machine guns. The game provides maps and determines the types of battles and offensive/defensive missions.



ON-LINE SCAN by Tim Wals

Beginning this month, the "PD Prospector" takes his pick and shovel upstream to join the news-and-new-products camp. In Online Scan, Telecom Tim will not only mention his top software choices from the online networks, but also broaden his coverage. As before, he will focus on the three major sources of public-domain software—CompuServe, GEnie, and American People/Link. Don't be surprised, however, to see an occasional spotlight on BIX or some other source.

Seemingly every network is either getting ready to jump on the 9600-baud bandwagon or has already done so. Hats off to CompuServe for taking the plunge first and adding 9600-baud modern support to about 30 nodes nationwide. Just type GO PHONES to find out the availability of 9600-baud nodes in your area. CompuServe is

also serving up joint conferences between the MIDI Forum and the Amiga Arts Forum on alternate weeks. In addition, to help you reduce online expenses, a new File Finder Amiga (GO AMG) lets you rapidly locate Amiga files via a keyword search.

Programmers should note that CompuServe's AmigaTech area now offers an extensive four-part C Programming Manual by Anders Bjerin for downloading (CMAN1.LZH through CMAN4.LZH). Another hot download is Backtalk 1.20 (AmigaUser Library 5, BT12.LZH), a new, full-featured AmigaDOS 2.0-compatible telecommunications package.

People/Link's 9600-baud support is almost sure to be ready by the time you read this. That's not the only news that has the network a-poppin', however. According to Amiga Chairman Harv Laser, Plink is giving away one Firecracker 24 graphics board (generously donated by developer Impulse) every month to a randomly selected patron of the Wednesday night Graphics Forum in the Amiga area. As of this writing, two Forum participants have walked away with the \$1600 24-bit boards.

Between graphics forums, be sure to check out IBEM.LZH (AmigaZone Section 4, File #27146)—an IBM emulation program for the Amiga. To run it, you will also need the Messy-DOS File System, which goes by the filename of MSH.LZH (AmigaZone Section 4, File #25431).

Officials at GEnie tell me that everything but the paperwork is ready for getting 9600-baud support to the masses. Once it is in place, 70 nodes will be available for high-speed access. GEnie users may also want to peruse two new library areas: Library 18, entitled "Amiga Pictures: Digitized," and Library 19, called "Amiga Artwork: Drawn Images." The addition of these libraries allows GEnie to categorize and post more creations of Amiga artists.

One of the more intriguing and heavily downloaded files recently made available is OSNAP29.LZH (Library 4, File #10670. Written by Pierre Baillargeon, Osnap 2.9 is far and away the best utility I have seen for lifting or "snapping" text from Shell windows and graphics from your Workbench screen. With a little practice, even Amiga novices can use Osnap to transfer virtually any item from one screen to another.

If you want to call any of the networks mentioned above, here are their voice numbers:

American People/Link: 800/ 524-0100

CompuServe: 800/848-8199: 614/457-8650 from Ohio GEnie: 800/638-9636

If you have an idea...

YOU NEED SCALA

A Professional Presentation Package for the Amiga



How you present your ideas is as important as the idea itself. With a tool like SCALA your ideas will have the advantage they deserve.

SCALA provides all the tools you need for professional presentations:

Backgrounds. Scala includes FIFTY-NINE professionally created backdrop images and textures, such as "Stone", "Marble", "Fabric", etc. THIRTY-NINE specially selected color palettes are included, allowing you to create unique and eye-catching background tapestries, adding character to your presentations. Backgrounds are stored



in IFF picture format (HAM also supported), allowing custom backgrounds to be easily created and added.

Symbols. Scala includes many useful presentation symbols such as, male, female, arrows, vehicles, etc. Symbols are stored as IFF brushes, allowing custom symbols (or other objects) to be easily created and added.

Typography. Scala includes SEVEN-TEEN fonts, each of which is available in many different sizes and weights.



Special effects such as tilting, underline, drop shadow, 3D and color can be applied to any individual letter, word or line. The video enthusiast will find several typefaces especially suitable for video titling purposes.

Transitions. Scala offers more than SEVENTY special effects transitions for control of transitions between pages of a presentation and how and when text, symbols or objects appear on a page. These transitions allow you to soften or accentuate changes and liven up your presentations. The speed of any transition and display times can be fully controlled.



Animiations. Scala is able to load and play back animations at any point within a presentation. Text can be added and super-imposed on an animation while it is being played back.

Output. Transferring output to different media is no problem with a duo like Scala and the Amiga. Using well-known Amiga tools, presentations can be genlocked, recorded on video tape, printed on polaroids, etc. Scala includes ScalePrint which can print out a complete presentation or just a cue for your speech. PostScript printers are supported.

Other Features. Page layout and attributes can be saved and re-used later to ensure a consistent appearance within a presentation. ASCII files can be loaded and formatted onto these pre-defined layouts. Any object or part of a screen can be defined as a "button", allowing "run-time" selectable flow of presentations by the simple click of a mouse button. Mouse buttons act as a "remote control", allowing forward and backward control of the presentation or overriding display times.



SCAL Sophisticated yet Easy-to-use

Scala represents a new generation in Amiga software due to
its excellent user-interface and
smooth performance. All Scala's
features are accessible through three,
clear and easy-to-use menus labeled
in plain English. Scala is shipped
with a comprehensive manual and
EIGHT DISKS! MINIMUM CONFIGURATION. Scala requires Kickstart
VI.3 (or later), at least IMB of
memory and a hard disk. Separate
versions for PAL
and NTSC.

Your

ideas deserve SCALA!





Scala and the I symbol are registered trademarks of Digital Vision Ltd, Norway, Amiga is a trademark of Commodore-Amiga, Inc. PostScript is a trademark of Adobe Inc. GVP is a trademark of Great Valley Products, Inc.

GREAT VALLEY PRODUCTS INC. 600 Clark Ave., King of Prussia, PA 19406

For more information, or for your nearest GVP dealer, call today. Dealer inquiries welcome.

MANDEL TAUGHT

Science fiction, the Titanic, the Mandelbrot set, the Amiga, and good reading...they're all here in Arthur C. Clarke's latest novel, *The Ghost from the Grand Banks*. Clarke spent hours exploring the Mandelbrot set on his A2000, and this research served as inspiration for much of the book.

The Mandelbrot set is based on simple mathematics and extends, via millions of equations, into infinity. While I had seen Mandelbrot plots before reading the book, I had no idea how these complex and stunning images (which often look like Paisley designs) were generated. *Ghost*, however, made the process apparent and interesting—even to a math buffoon like myself.

The novel features a race to raise the Titanic, a giant octopus, an interstellar probe, and a grieving mother who searches for her lost daughter in the Mandelbrot set. I'm not saying how this stuff fits together or how the story ends, but I recommend it!

—DB

From p. 8

buffars via CBM's Bridgeboards, and tha other la CIneLink, which supports 24-bit output to film at 4000 linea using any of sevaral recorders. Just down the hall, Computer Creations II (RS#577) showed tha rasuits of its 4000- and 8000-line resolution slide-imaging service.

A number of video time-base corrector (TBC) manufacturers were boasting that their units "work with the Toaster!" Among theae was Digital Processing Systems (RS% 555), which demonstrated a \$995 Personal TBC that fits Inside tha A2000. Acroas tha way, Showline Video (RS% 556) spraad news of its Spectrum series of SVHS/composita digital frame synchronizer/TBCa, ranging in price from \$1295 for a aingle-channal modal to the \$2695 dual-channel unit. LDEN Videotronics (RS% 557) countered with the IVT-7 TBC, featuring SVHS, Hils, composite in and out, and full-frama memory.

KEY INTEREST

With tha help of a genlock and video source, MicroSearch's (RS# 558) ChromaKey (\$395) allows Amiga graphics to show through any part of a video picture that is colored blue. That's why MicroSearch repa appearing on the Amiga monitor seemed to be doing impossible stunts, while they were really only standing in front of a blue backdrop.

ASDG (RS# 559) announced new drivers for its Art Department Pro: one each for Impulse's Firecrackar 24, Progressive's FrameGrabber, Black Belt Systems' HAM-E, and MacPaint on the MacIntoah platform. In the ASDG booth, we also found a \$1995 Epson ES-300C 600-dpl flatbed color scanner, as wall as tha \$4500 Kodak SV6510 dye-aublimation printer so popular in

screen-printing and novelty businesses. Not surprisingly, ASDG has just released drivers (at \$200 and \$250, respectively) for both units. ASDG also announced a driver (\$200) for the \$4495 Polaroid CI-3000 33-bit digital film recorder.

Although the show was heavy on graphics and video, there were a number of important audio products on display, including Beta Unlimited's (RS# 560) 16-bit processor for the A2000 AudioLink. AudioLink boasts 16 volces, sampling rates up to 48 KHz, MIDI support, and room for up to 16MB of memory.

SunRize Industries (RS# 561) displayed two high-resolution sampling boards for the A2000— the AD1016 16-bit unit, with its SMPTE time-code reader and digital I/O ports, and the AD1012 card, which also has a SMPTE reader. Both boards are packaged with SMPTE- and ARexx-compatible software that lets you record to and edit from hard disk. SunRize also demonstrated its fast Audition 4 sound-editing package (\$99.95), which boasts eight real-time effects.

Aegis/Oxxl (RS# 562) announced its speedy new Aegis SoundMaster eight-bit stereo digitizer. At the opening of the show, the company officially released its \$99.95 HAM paint-and-anilmation program, SpectraColor. The good news for owners of Microlliusions' Photon Paint is that they can upgrade to SpectraColor for \$49.95 plus shipping. Oxxl also announced its upcoming TurboText text editor, its Scan-Master 300-dpl 24-bit flatbed color scanner, and its P-Stat statistical-analysis package.

ONWARD, ACHING FEET!

To facilitate all the high-end applications presented at the show, developers of traditional Amiga peripherals offered all manner of controllers, accelerators, super RAM cards—and much more. Many of these companies are taking off in new directions. GVP (RS# 563), for example, showed off a color scanner and a 24-bit graphics board (both still in development). The company also held demonstrations of its first software offering, the impressive Norwegian presentation package, Scala.

IVS (RS# 578) had the most attention-getting (and loudest) display: The company used Digital Creations' DCTV (RS# 564) to display a near-video quality film clip from hard disk in real time via its TrumpCard Professional controller. IVS also previewed its Grand Slam card that combines 8MB of RAM and a parallel connector with a SCSI hard card. Digital Creations, incidentally, announced a DCTV software upgrade (scheduled for release around June) to Includa an "undo" command.

New in the California Access (RS# 565) booth was the CA-650 CD-ROM software intartace that supports both SCSI CD-ROM drives and Amiga SCSI-direct hard-disk controllers. As for discs, it supports AmigaDOS, ISO 9660, and High-Sierra standards and thus allows use of IBM and Mac ISO compact discs in addition to standard audio CDs. California Access also joined the speedy elite with the announcement of its Boogle Board 33-MHz

68030 accelerator. Across the show floor, CSA (RS# 566) showed a preliminary version of its 68440 accelerator in addition to its Mega-Memory 19MB RAM board for the A2000.

Amidst more hard-disk controllers and RAM cards, the developer of the much-anticipated Colorburst 24-bit RGB graphics card was on hand to answer questions in the MAST (RS# 567) booth. ICD (RS# 568), meanwhile, drew some wows for its tiny Novia 20i Internal A500 hard drive (\$695.95), which incorporates the firm's AdiDE controller.

Spirit Technologies (RS# 569) alluded to a forthcoming character generator, and gave details on its modular Studio A genlock, which allows you to add such things as color splitters or computer control to the basic NTSC (\$795) or PAL (\$925) unit. Roctec (RS# 570) also displayed an external NTSC/PAL genlock—tha Rocgan. Roctes's Rocknight external anti-virus device stirred interest with its track-location display and warning system.

Among the many devices featured in Supra's (R\$\% 571) massive display were two new Supra-Moderns: the 2400 MNP with error-checking, and the 9600-baud unit. The new SupraRam 500RX is a low-profile BMB external memory expander with a pass-through connector for the A500. Computrol (R\$\% 579) engineered its tiny 8MB device with controller option to fit under the hood of the A500 (and A1000 and A2000 as well).

FROM HERE TO THERE

One booth that generated lots of Interest was that of Black Beit Systems (RS# 572). Attendees who made their way inside were treated not only to glimpses of the Click Fax 9600-baud fax modem, but also saw demos of the HAM-E 24-bit imaging device and its new software. In support of HAM-E, HoloSoft Technologies (RS# 573) introduced its HAM-E Workshop software.

A handful of European companies exhibited at the show, including Memory Expansion Systems (RS# 574), with its 8MB Cortex external RAM expander for the A500 and A1000. Activa International (RS# 575) demonstrated its CAPS XL (Computer Aided Prasentation System) multimedia software, which allows multiple users working on different platforms to set up prasentations for cable television and in-house video systems. Both companies actively sought US distribution.

This show was pretty sophisticated. Any professional or aspiring artists or videographers who felt confused by the array of offerings were welcomed by the Amiga Video-Graphics Guild (RS# 576), a nationwida nonprofit organization whose booth seemed forever busy. Those who didn't get enough should consider attending the next EXPO, to be held in Orlando, Florida, July 26-28. For details, call 914/741-6500. — BG

Overscan Is compiled by Barbara Gefvert, Janine Jackson, and Tim Walsh. Send your news, new products, and network information to Overscan, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458.

If you wish to enhance your Amiga 2000° with MORE MEMORY, A HARD DRIVE, Or BOTH wish no more—GVP has the solution for you.

Choose GVP's Series II RAM Expansion Board. SCSI Hard Drive Controller or SCSI+RAM Hard Disk Card. Realize the potential of configuring your perfect solution without any need for compromise!

RAM Expansion

SII A2000-RAM8/2: The smallest and most compact 8MB RAM expansion board for the A2000!

Features:

- √ 2MB of factory-installed RAM, expandable to 8MB.
- ✓ All memory fully Auto-Configured.
 ✓ Also supports 6MB configuration for
- maximum memory utilization for Commodore's A2088/2286
 "bridgeboard" users.

 V Uses easy-to-install, industry
- standard, SIMM memory modules. No more bent pins or incorrectly inserted DRAM chips!
- ✓ GVP's state-of-the-art VLSI technology has reduced an 8MB RAM expansion board to a "half-card"! This translates into a lower parts count and also means the highest possible reliability and life

SCSI Hard Disk Controller

SII A2000 SCSI "Hard-Disk-Card": Specifically designed for those users who don't need memory expansion but still need maximum hard disk performance at a budget price.

Features:

- ✓ Incredible SCSI bard disk performance achieved through GVP's innovative new custom chip design.
- ✓ Supports virtually any SCSI device including: CD ROMs, tape drives, Bernoulli drives, removable hard drives.
- Fully implements Commodore's Rigid Disk Block (RDB) standard as well as the new DIRECT SCSI
- interface standard. Allows direct AUTOBOOT from Fast File System Partition.
- ✓ Simplest and easiest SCSI installation in the industry.

SCSI Hard Disk+RAM Expansion

SII A2000-SCSI Hard Disk+RAM-Card: State-of-the-Art integration packs GVP's high performance SCSI controller, 8MB FAST RAM expansion and a 3.5" hard drive drive INTO A SINGLE A2000 EXPANSION SLOT!

Features:

- √ GVP's new custom chip design provides DMA performance and unique direct dual port memory access to FAST RAM, eliminating typical DMA side effects under beavy graphics load.
- ✓ Easy-to-install SIMM memory modules allow flexible memory configurations for Zero through 8MB. Supports 6MB FAST RAM configuration for BridgeBoard users.
- ✓ Supports virtually any SCSI device.
 ✓ Allows direct AUTOBOOT from Fast File System Partition.
- Simplest and easiest SCSI installation in the industry.

expectancy. 2MB Factory-**Installed Memory** GVP Custom VLSI Chip

Up to 6MB User-Installed Memory

Factory-Installed _____ 3.5" Hard Disk Drive

VLSI Chip Up to 8MB **FAST RAM** Expansion

GVP Custom

Series II, and GVP are trademarks of Great Valley Products Inc. Amioa and Amioa 2000 are registered trademarks of Commodi-

GREAT VALLEY PRODUCTS INC. 600 Clark Avenue, King of Prussia, PA 19406

For more information, or for nearest dealer, call today. Dealer inquiries welcome.

REVIEWS

PROFESSIONAL PAGE 2.0

The features, they are a-changin'.

By Irene C. Kobelski

IT'S BEEN A few years since Gold Disk introduced Professional Page to Amiga desktop publishers, and the program has changed almost as much as hairstyles since the 1960s. Back in the old days, document output was limited. Then came version 1.3, with its Compugraphic fonts and full support for dot-matrix printers. Professional Page 2.0 (\$395; \$75 for upgrade) is chock-full of new features, making Gold Disk's ongoing commitment to this high-end desktop publishing package abundantly clear.

To appease the ever-growing demands of state-of-the-art desktop publishers, Gold Disk managed not only to pack the program with new features, but also to give the basic functions a new look. The newly implemented Menu Extended Select makes it fast and easy to experiment with different combinations of text attributes. Rather than waiting for one menu command to execute before choosing another, you can now select multiple menu items by simply holding down the right mouse button while making selections with the left.

You can also activate names in list requesters by double-clicking on them. If you prefer keyboard shortcuts, you will appreciate using the space bar to execute a screen refresh. Improvements like these mean that you spend less time thinking about the program and more of your time producing copy.

TODAY'S DESIGN

Heading up the list of added features is the long-awaited ability to rotate text and graphics. You can rotate any box to any angle by typing in numeric values or using the mouse. This feature gives the program a serious boost, eliminating the need to manually paste up copy requiring special text or graphics angles.

Two new page-display modes make checking a multipage layout a snap. You can now view facing pages of a document or see up to six pages at once in thumbnail representations. You can also view single pages at any of five available screen magnifications, ranging from 25 to 200 percent. Whenever you choose a magnification level too low to see text properly—as is the case with the special display modes-text will appear greeked (as patterns rather than characters). You can, however, change the threshold at which greeking occurs by selecting the minimum and maximum sizes for greeked text.



Pro Page 2.0 has the potential to once again set industry standards in Amiga desktop publishing. However, unstable printing at 300dpi resolution and poor response from Gold Disk technical services make 2.0 an unacceptable program for producing "professional" documents on a laser printer. Talk to me when the program works as it should.

Jim Twining Nashua, NH

The program now makes provisions for automatically inserting dates within a document. Likewise, you can add page numbers with a simple keystroke. Format options for both of these features appear on the Preferences menu.

Pro Page 2.0 supports color dither-

ing, which means that it can display over 1000 colors on screen simultaneously. Via the Color Dither Mode menu, you can choose smooth, noninterlace or flicker-free dither.

Whether you are working with color or black-and-white graphics, the program is very flexible. You can import 24-bit IFF color pictures, bitmap graphics (in IFF format), HAM pictures, Aegis Draw and Aegis Draw Plus CAD structured drawings, Professional Draw clips, and Encapsulated PostScript Format (EPSF) graphics. Pro Page 2.0 also comes with tools for creating your own structured drawings.

With the addition of the Pantone Matching System, you can output color separations or print to a color PostScript printer or slide imager. The Pantone system assures consistency in over 700 industry-standardized colors.

When actually preparing your document, it is often necessary to use several different combinations of typographical attributes. A typical magazine page may include headlines, subheads, quote boxes, and body copy, each requiring a different size font or particular line spacing.

To simplify an otherwise tedious procedure, Pro Page 2.0 lets you create Style Tags. Let's say that you always set your body copy in 12-point Times with a leading of two points, flush justification, and a tracking of 2. By defining and saving a Style Tag, you can invoke these attributes quickly, without having to select them manually each time. Since each Style Tag is saved with a specific name, it is possible to use multiple tags within a document. For viewing and printing purposes, you can assign different colors to the text affected by each tag.

Paragraph Tags let you define box margins, paragraph spacing, indents, tabs, and interword/character spacing

For information about the vendors of products reviewed, see "Manufacturers'/Distributors' Addresses" list on p. 88.

Greeked text makes for quicker layout with Pro Page 2.0.

(with flush-justified text only). For complete flexibility, Paragraph Tags can be linked to Style Tags or used independently. Best of all, these tags can be modified or deleted as you see fit.

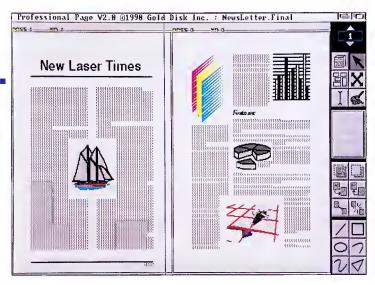
TWO EDITORS FOR THE PRICE OF ONE

Pro Page's integrated, on-screen text editor has always been useful for making quick changes or corrections, composing short blurbs, or writing headlines. For longer documents, you were better off booting up a separate word processor and importing the results. That was yesterday. Today, the program's new built-in word processor is at your disposal.

Unlike the on-screen text editor, the Article Editor is meant to handle bigger jobs. To compose a long document from scratch, you simply run the Article Editor from your Workbench disk. You can save files with or without special Pro Page formatting codes and import them later in the same way you'd handle documents from other word processors. You invoke the Article Editor from the Edit menu when Pro Page is operating.

Exploring the Article Editor turns up several features you might not expect. Among them are automatic upper- and lowercase letter conversion, extended cursor-key functions, and the ability to create macros. A quick cursor/keystroke combination lets you mark a long range of text without having to use the mouse. You can even save portions of a longer article as a separate file or insert a file on disk into your current article.

The Find/Replace command lets you locate specific words or phrases within your document. You can conduct a search from beginning to end. in addition to forward or backward from the current cursor position. You can search for upper/lowercase matches or perform wildcard and style-code searches. Finally, when multiple substitutions make using the Find/Replace operation impractical,



Translation Tables (e.g. "PP"= "Professional Page") can be used to speed things up.

Invoking the Analyze feature brings up a screen displaying the word count of your document, the total number of characters, sentences and paragraphs, a word-length frequency histogram, and a readability index (the average number of words per sentence and the reading level of the text). This is a highly unusual-but welcome-feature.

The Article Editor includes a 90,000-word spelling checker, Trans-Spell, which you must load into memory. You must therefore have more than 2MB of RAM in order to use it while running Pro Page. Like the Article Editor itself, TransSpell is a stand-alone program.

GOOD COPY?

Professional Page 2.0 is a solid, reliable package. Those planning to use it in a professional capacity are strongly advised to invest in a hard drive and at least 2MB of memory. Though it will function on a IMB Amiga, this necessarily sacrifices some of its conveniences. For example, you cannot load the hyphenation dictionary-nor the TransSpell modulewhile Pro Page is running. You may also get low-memory warnings, particularly when working with multiple bitmap graphics. But Pro Page is still worth the investment, even though its memory is limited.

It goes without saying that using a PostScript printer or Linotron with Pro Page will yield the best finished copy, but even a 9-pin dot-matrix printer can produce impressive results when using Compugraphic fonts. The program manual is well docu-

mented and easy to follow, even for first-time users. To get you started, a tutorial video is packaged with the software. Unfortunately, it is not available to users who are simply purchasing the upgrade. If you run into any problems while operating the program, you'll find the technical-support personnel quite helpful.

IMAGINE

The program that asks the

question: What if?

By Kelly Day

A MULTIDIMENSIONAL program such as Imagine (\$350) from Impulse offers incredible possibilities to a 3-D artist. Imagine is complex. It is also clearly a great program, and it will take years for its full value to be realized.

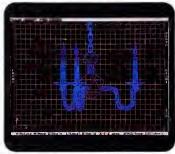
I think there are basically two schools of thought when it comes to 3-D modeling, and it is difficult for one program to encompass both. The first type of designer builds models and animates from a designed set of plans. For instance, industrial designers or architects might want to show their clients precisely what a product will look like and exactly how it will operate in near-actual situations.

On the other hand, cartoon artists/ animators quite often may not have an exact idea of what a design will look like before starting to "sketch" it out. Instead, they may want to play around with some basic shapes until they find the form or motion they like, without being too particular about the details until later on.

As a cartoon animator, I found it difficult to use Turbo Silver (Imagine's predecessor) for model building and animation because it was a "bythe-numbers" kind of program more typical of the first approach. Instead of letting me "mouse" around with forms, it required a lot of keyboard input of exact degrees of rotation, lengths of extrusion, and color num-

bers. The results were flawless but, I think, a little stiff. This did not stop many people, myself included, from creating some interesting images and animations with Turbo—even a few "cartoony" ones—but it was tricky.

Certainly the mapping features of Turbo set it above many other Amiga programs with regard to imaging. I had wished, however, for a program incorporating both texture and picture mapping and a more artist-flexible, model-building and visualizing interface. With Imagine, Impulse has taken all of the things that were so



An object in the Detail editor awaits point selection.

good about Turbo and put them into a program that takes many steps in my direction. In addition, Impulse added some very powerful features that were never at my Amiga fingertips before.

In a nutshell, Imagine is a six-editor, modular program. The Project editor lets you name and define your 3-D enterprise (picture or animation), including such items as the number of frames, resolution of test traces, and so forth. With the powerful Forms editor, you can create wonderfully organic, amorphous shapes. The Detail editor allows you to select points by lasso, dragbox, and point-and-click, and it offers a wide array of tools for manipulating shapes.

When it comes to moving and shaking your images, the Cycle, Stage, and Action editors are at your fingertips. With the Cycle editor, you can pull out stick-figure representations of objects and their positions, set key frames, and then assign the actual objects to the stick segments-all contributing to easier, more realistic character motion. The Stage editor is where you put all your elements together for animation, while the Action editor lets you define the relationships between objects and plot their movements, as well as morph those objects and their attributes in almost any way imaginable.

THE BEST OF THE BUNCH

Imagine includes so many great new features that I hardly know where to start, nor can I list them all, so I'll just point out the best. My favorite new tool by far is the Magnetism mode found within the Detail editor. It allows you to create "organic" shapes by pulling a wireframe around an object as if it were some kind of flexible chicken wire. By setting its parameters, you can adjust exactly how your magnet will influence a model.

EDITING SWEET.



With AmiLink/CI controlling your editing suite, there's only one more editing device you'll ever need.

Just a few mouse clicks and you're editing with AmiLink/Cl, the new computer-based edit controller from RGB. AmiLink's intuitive, graphical software interface is a pure pleasure to use. It leaves the artist in you free to create!

AmiLink puts you right in the middle of the hot desktop video arena. It multitasks with your favorite desktop video software applications, and it controls most traditional devices too (Video Toaster upgrade available soon).

It's AmiLink's power that makes editing easy. With features that let you do insert or assemble editing, auto assembly from a list, park and perform or open-ended editing, edit point trimming, complete 999-event edit decision list management, and multiple list saves to disk, your pace will be fast and furious. But you remain calm and relaxed because now your computer does the work.

So you see, with all this power and simplicity, the only thing left to buy is the easy chair.

Call now for info: 1-800-535-7876.

AmiLink is compatible with all 5-pin or control-L and control-M VCRs. Multiple platforms supported. All products mentioned are trademarks of their respective companies.



RGB COMPUTER & VIDEO

Makers of professional computer-based edit controllers for over 3 years



Houghton Mifflin CorrecText™
Grammar Correction
System, a powerful
expert system that uses
context-sensitive rules of
grammar to analyze writing and
to detect and correct errors in
syntax, usage, punctuation, spelling,
and style. It is the first and only
the Amiga that corrects documents
tion and relationships among words.
work out of good grammar by
t identifies and corrects embarrassing
iding tool designed to improve writing.

Proper Grammar™ utilizes the

by Softwood Inc.

interactive language-aid system on the Amiga that corrects documents by identifying the grammatical function and relationships among words. Proper Grammar takes the guesswork out of good grammar by detecting 95% of all writing errors. It identifies and corrects embarrassing errors making it a valuable proofreading tool designed to improve writing. Use with your word processor. Open, check, edit and save WordPerfect $^{\rm IM}$, ProWrite $^{\rm IM}$, QuickWrite $^{\rm IM}$, Pen Pal $^{\rm IM}$, Excellence $^{\rm IM}$, TextCraft Plus $^{\rm IM}$, KindWords $^{\rm IM}$, TransWrite $^{\rm IM}$, Scribble $^{\rm IM}$, and ASCII files.

System Requirements: Amiga $^{\text{TM}}$ with 1 megabyte RAM, and either a hard drive or 2 floppy drives.

1(800)247-8330 Visa/Mastercard Accepted

SoftWood ©1991 SoftWood, Inc. P.O. Box 50178. Phoenix, AZ 85076 For instance, you can adjust whether it will pull out a sharp ridge or a dull bulge, and then set how much of your model's area will be affected. For the first time, I feel I am actually "modeling" an object in 3-D as if it were wet clay, as opposed to chipping away at it like a piece of granite. This feature alone is worth the package.

Each editor in Imagine has a "fourth view" in hidden-line perspective that you can rotate independently of your normal work area, or "triview," so you can see odd angles

Series can be used for a wide range

of industrial system applications

utilizing automatic sensitivity

adjustment, realtime auto white

In addition, the KP-C500 boasts

low light sensitivity to 10LUX which

makes it superior in all applications

where light levels are a problem.

Hitachi Denshi America, Ltd.

150 Crossways Park Drive Woodbury, NY 11797 (516) 921-7200 FAX: (516) 496-3718

(214) 891-6381 FAX: (214) 891-6382

5910 No. Central Expressway

Headquarters and Eastern

Regional Office

Dallas, TX. 75 206

18 June 1991

balance and ES lens output.

when sculpting a form. There are also many helpful shortcuts that facilitate the process of getting your ideas on screen. For example, if you are working on an animated scene, Imagine allows you to preview small sections of your animation. This saves time because you don't have to sit through an entire preview rendering when you are fine-tuning one small portion (pretty smart!).

With the Forms editor, you can create all kinds of "organic" shapes by altering the profiles of a generic sphere. If you wish, you can do things

· Realtime auto white balance

Long life and high reliability

Excellent color separation

Resistance to vibration and

External sync capability

· No geometric distortion

· 48 dB signal to noise

· RGB analog output

Western Regional Office

371 Van Ness Way, Suite 120 Torrance, CA 90501

Midwestern Regional Office

250 East Devon Avenue

Itasca, IL 60143

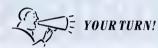
(213) 328-6116 FAX: (213) 328-6252

(312) 250-8050 FAX: (312) 250-8054

shock

like pull the walls of your object out to impossibly thin dimensions and then warp them in and out in a sort of sine wave pattern.

In the Detail editor, the Slice function lets you punch holes in your model as if you were using a 3-D cookie cutter. In general, Detail gives you more control over image size, depth, color, texture and other attributes than you can. . well, imagine! Moving from object composition to animation, the equally powerful Cycle editor allows you to animate very complicated objects by manipulating much simpler stick figures made of little squashable diamond shapes. In



Imagine is very powerful. It really is a great program and easy to use. The manual, however, is very poor. I am used to Sculpt, with its in-depth manual; there is just not enough tutorial with Imagine. You have to try it yourself and learn as you go.

Pierre Tavernier Rock Hill, South Carolina

the rendering and animation areas, Imagine simply can't be beat.

CHANGING TRAINS

Unlike Sculpt-Animate 4D, Imagine is mainly an object-oriented modeler. That is, the emphasis is on first deciding what you want to build and then figuring out how to build it from smaller, basic objects. This method works fine when you are building a model of something you can see. When creating something entirely new, however, you start by "sketching" the larger elements, such as the main portions of a figure and the size and mass relationships of its parts. Next, you break those larger elements down (in 3-D) and extrude them, scaling and reproportioning them as you go, sticking and unsticking pieces together. This method of adding a dab here and breaking off a hunk there can be done in Imagine, but it feels as though you were going against its grain. For instance, suppose you want to build some weird alien hand. If you forge ahead to make the whole hand one object, the only way to break it down for animation is to copy it over and over, each time deleting pieces until you're left with one Continued on p. 76.



Out of Memory?

SupraRAM 2000

- 2, 4, 6, or 8MB FAST RAM board for Amiga® 2000 computers
- · Easy to install & Easy to expand
- Uses 1MB x 1 DIP DRAM chips (120 ns. or faster)
- · Zero wait states & Hidden refresh
- · Four-laver board reduces noise and improves reliability
- · 6MB configuration allows maximum benefit with the Amiga Bridgeboard
- · Lets you run larger & more sophisticated
- · Allows creation of large & very fast RAM disks
- Test mode & software simplify troubleshooting





- 1/2MB FAST RAM board for the Amiga 500
- · Increases computer's memory to 1MB
- · Battery backed-up clock/calendar remembers time & date even when your system is turned off
- · Lets you run larger & more sophisticated
- · Installs easily in A500 internal memory slot
- Comparable to Commodore A-501 board

Made in the

· ON/OFF switch available

SupraRAM 500RX

- 1/2, 1, 2, 4, or 8MB FAST RAM for Amiga 500 computers
- · Easily plugs onto A500 expansion port
- · Amiga bus pass-through
- · Easy to expand from initial configuration
- Uses 256K x 4 ZIP DRAM chips (120 ns. or faster) for 1/2, 1, & 2MB configurations; 1MB x 4 ZIPs for 2, 4, & 8 MB configurations. Optional external
- Zero wait states & Hidden refresh
- Four-laver board reduces noise and improves reliability

- · Lets you run larger & more sophisticated programs
- · Allows creation of large & very fast RAM disks
- · Test mode & software simplify troubleshooting
- power supply
- · ON/OFF switch

Available at your local dealer, or call: 1-800-727-8772



U.S.A.

1133 Commercial Way, Albany, OR 97321 USA • FAX: 503-926-9370 • 503-967-9075 SupraRAM 500, SupraRAM 500RX, and SupraRAM 2000 are trademarks of Supra Corporation. Amiga is a registered trademark of Commodore-Amiga



BIRTH OF A NOTION?

By Doug Barney

ike D.W. Griffith's seminal film 75 years ago, Commodore's CDTV could represent a similar pioneering effort in a different medium. The interactive CD-ROM system, which marries CD-ROM and Amiga technologies, just might be the ticket that raises "multimedia" from hyped-up buzzword to living-room byword.

It's taken the wizards from West Chester a while to deliver the goods: AmigaWorld first brought you the news about CDTV in an investigative story that graced the cover of our July 1990 issue (see "Million Dollar Baby," p. 18). Commodore called it "The Baby" then, and while 11 months is a tad longer than the normal human gestation period, the company finally began rolling out CDTV in selected markets just as we were getting this issue ready for press.

Throughout the long delivery, Commodore has been diligently refining (read "finishing") the product. Also during that time, the company lined up scads of developers (see the "Buyers Guide to CDTV Titles" accompanying this article), nailed down distribution through retailers such as Montgomery Ward and Macy's, set a suggested list price of just under a grand (\$999), and, finally, polished off the product. \blacktriangleright

In order to have enough time to do a full-scale, hands-on review of CDTV for this issue, however, we were forced to use a very late-model prototype and an array of equally late beta software. In addition, we received one final operating-system upgrade in the middle of writing the article!

HYBRID VIGOR: HIGHLIGHTS OF CDTV

While some things have been altered, the basic hardware behind CDTV (Commodore Dynamic Total Vision) has not changed much from what we described II months ago. It is still a CD-ROM player tied into a 7.16 MHz 68000-based A500. The front panel includes mainly standard CD functions (Play, Pause, Head-Phone Jack, and so forth), plus a port for the Personal RAM card (see the "CDTV Options and Accessories" sidebar). Meanwhile, the back is jammed full of ports and plugs that computer users around the world generally love to see. There are parallel and serial ports, a floppy drive, keyboard and remote mouse/joystick ports, audio out, MIDI in and out, and an array of video outputs, including RF, Composite color video, Digital and Analog RGB, and S-Video (supporting PAL and NTSC). Also on the back are a DMA expansion slot and a video slot.

The system still comes with one megabyte of RAM, which limits the amount and quality of either animation or video, but keeps the price down to a reasonable level.

Although CDTV uses the tried-and-true A500 as its base technology, it is shockingly and purposely unlike any computer ever made. As you can see from the photo on the opening page, the physical device is decidedly uncomputer-like. A key difference is the 28-button hand-held remote device that handles all control functions. Unfortunately, its four-button cursor does not allow for the fine control possible with a mouse, making intricate menus and drawing out of the question. (Commodore will, however, offer a remote-control mouse later this year—see the "Options" sidebar.)

In general, the remote device offers fewer choices, and it will take a bit more time to achieve the desired result. But those intimidated by the complexity of a VCR, or scared stiff of computers, will appreciate the total shielding of all computer elements.

With the remote, users also gain tremendous freedom. There is simply no cord binding you to your computer. When you sit back in that easy chair, soda in hand, and start moving through screens, the advantages really sink in.

Another advantage of CDTV is its ability to play the rare (there are only about 30) but interesting CD+G (Compact Disc Plus Graphics) discs. These CDs include graphics that are played on a television. We're not exactly talking rock video here, but the images do add flavor to the musical content. Currently available titles include Fleetwood Mac's "Behind The Mask," Little Feat's "Hoy, Hoy" and "Representing...," "Jimi Hendrix Experience: Smash Hits," Bonnie Raitt's "Green Light," and Talking Heads' "Naked"—with a little classical, folk, and jazz thrown in as well.

For playing standard CDs, Commodore has added a slick graphical interface. You control the CD by poking buttons on the remote device. Then you see an animated representation of the portion of the CD that is played. In addition to programming the sequence of cuts or skipping through tracks, the interface gives you the ability to preview the first ten seconds of each song, as well as to control the CD+G and CD+MIDI function. By the way, the MIDI func-Continued on p. 28.

CDTV Options and Accessories

more versatile, Commodore plans to introduce a number of special accessories throughout 1991. Perhaps of most interest to current Amiga owners will be the one scheduled to appear first, which is also the first item on the following list:

A690 CD-ROM Drive - Already exhibited at CES and carrying a \$699 suggested retail price tag, the A690 should be shipping not long after you read this. It attaches to the A500's expansion bus and plays any compact disc, including CDTV. Commodore is also supposedly developing interfaces for the A2000 and A3000 so that these systems can run the drive sometime in the future.

TO MAKE CDTV more useful and Video Genlock Card — Allows you to combine CDTV visuals with video from a video camera, videotape, or live television. You can switch among video-only, CDTV-plus-video, and CDTV-only genlock modes. There is already a genlock button on the standard CDTV remote control.

> Remote-Control Mouse - A two-button model that provides real mouse control over the CDTV player without wires or cables. Will allow the kind of control not presently available when operating CDTV painting and drawing titles.

Trackball Controller — Increases speed and control for fast interactive multimedia titles. Has dual joystick connectors and operates by either an

infrared remote control or a plug-in cable that is provided.

Personal Memory Card — Provides an easy way to save information for later use for such CDTV titles as games (save a position), paint programs (save an image), and reference discs (save a text excerpt). In 64K and 256K versions.

Game Controller - An infrared transmitter "brick" with ports for wired joysticks.

Bookshelf Speakers - For better sound quality, this pair of stereo speakers comes with built-in audio amplifiers.

So What "Titles" Are on "Disc?"

RIGHT. REMEMBER, THEY don't call them programs-they're titles. And it's a "c" not a "k" on the end of dis round thing I'm holding between my fingers.

Because developers were scrambling to put the finishing touches on many of the titles in time for the CDTV roll-out, I was able to sample only a small number of applications (but quite a larger number of standard CDs—all of which played quite nicely). Besides the seven discs reviewed below, there are descriptions in the buyer's guide of nearly 25 other current titles, plus a list of over 50 additional titles announced for later in 1991.

Playing CDTV titles is the opposite of using standard computer software. Most computer software waits for the user to provide data and then helps to sift, manipulate, and form the information. CD-ROM "software" provides the information, which the user can then sift, manipulate, or form.

The first disc you'll play is a freebie. In fact, it's actually the CDTV documentation. Not knowing that at first, I called Commodore's Gail Wellington to ask about docs. She replied, "Look in the box for The Welcome Disc."

Sure enough, it tells you-through images, animation, sound, and words-what CDTV is all about and how it works. This is the perfect approach for a living-room computer, because you would probably wind up throwing out the manuals with old copies of Sports Illustrated and Cosmo the next time you cleared off the coffee table.

Next on my trial run-and one of the best of my tiny bunch-was World Vista Atlas (\$79.95) from Applied Optical Media. Similar to PC Globe for the IBM and Mac, World Vista teaches geography in a visual, interactive manner.

Unlike PC Globe, however, which uses conventional computer-style pull-down menus, World Vista uses a friendlier, kiosk-style interface. Instead of computer-generated, undetailed maps, it offers actual scanned maps the user can navigate through. More importantly, World Vista adds the richness of sound, which helps teach about different cultures through music and language. The cultural side





Even the documentation for CDTV is a CD-an interactive tutorial called The Welcome Disc.

is topped off with photographic images of the country along with descriptions of what you are seeing. It is obvious that Applied Optical took full advantage of ĈD-ROM's half-gigabyte-plus (550MB) mass-storage capacity. In human terms, that means that a single disc can store up to 250,000 typewritten pages!

Also in my personal CDTV starter kit was Xiphias' American Heritage Illustrated Encyclopedic Dictionary (\$69.95), which was not quite as suited to the CDTV remote device as World Vista. For applications such as this, a remote keyboard (promised by Commodore sometime in 1991) would be a welcome addition.

The 3000 color illustrations, automated word pronouncer and speller, and "hot-word" reference feature, however, all make good use of the strengths of both CD-ROM and Amiga-graphics technologies. The results are fuller, richer definitions of more than 180,000 words.

FUN AND GAMES, TOO

To keep our hard-charging reporter from getting bored, Commodore sent Airwave Adventure: The Case of the Cautious Condor (\$49.95) from Tiger

Media. This adventure game was designed from the ground up for interactivity and takes excellent advantage of CDTV's sound capability and storage capacity.

You ĥave 30 minutes to solve a murder mystery on board the maiden vovage of a 1937 luxury liner. With countless story possibilities and myriad images, however, it is a game that can be played over and over in many different variations.

For the younger set, there is Multimedia Corp.'s A Bun for Barney (\$49.95) title (and, remember, that's "bun" not "pun"). Narrated by Tom Baker, who plays Dr. Who on the PBS show of the same name, this is a terrific animated interactive children's book. Users (ages 3-6) can choose to simply go through the story or to combine the story with games. Choosing the game style, the child can move the pointer to various parts of the screen to make bears pop up, birds flutter, and squirrels appear, or to invoke simple and fun guessing games. The imagery is first-rate, the interactivity excellent, and the sound even better.

Back on the reference side, Dr. Wellman: Family Health Adviser (\$79.95) from Commodore's own CDTV Publishing unit, is an interactive primer on health. Although the program lacks the depth of a Gray's Anatomy or Merck Manual, it is quite easy to push-button your way to a better understanding of medical matters and to better health for you or your child. It includes information on traveling to various countries, exercise, first aid, alternative medicine, and many more health topics.

From Xiphias' Time Table of History series, Science and Innovation (\$59.95) makes excellent use of the Amiga's and CDTV's image handling. One can explore economic trends through simple graphs, read about the Big Bang, reminisce about the 1977 launch of the Commodore PET, put the Babylonians in historical perspective with a timeline, or see the famous photograph of the young Chinese student who stopped a tank on its way to Tiananmen Square. Audio presentations for key events and "hot-word" interactive referencing further enhance the program's appeal.

-DB

Buyer's Guide to CDTV Titles

The titles presented here are currently available or slated to appear by the time this guide is published. A brief list of other titles expected later on in 1991 is also included.

A list of CDTV developers with addresses and phone numbers is also contained in the guide. In addition, you may contact Commodore (see under "CDTV Publishing" in the list of CDTV developers) for product and ordering information about any of these titles.

Titles are grouped under five major headings: Arts & Leisure, Education, Entertainment, Music, and Reference.

ARTS & LEISURE

Advanced Military Systems Dominion Software

\$39.95

For the armchair warrior, the newest and most advanced military hardware is featured in over 1500 action photographs accompanied by music and narration.

Women in Motion On-Lina Entertainment \$49.95

Photography genius and motion-picture pioneer Eadweard Muybridge's Women in Motion is an encyclopedia of movement based on some of the great historic photos of the 19th century. You can examine each frame of animation, print it, or load it into a paint program.

EDUCATION

A Bun for Barney Multimedia Corp. \$49.95

Featured in the "Titles/Disc" sidebar.

Barney Bear Goes to School Frea Spirit Softwara \$39.95

A two-part learning game that combines colorful, animated graphics and "multitrack" sound. Includes spelling and counting games, color and shape identification, and a coloring book. Ages 2-6.

Fun School 3 Database Educational Software 49.95

Consists of six educational activities that help to develop many skills, including number,

shape, and word recognition. Colorful pictures, animations, and sounds. Ages 3-5.

LTV English Jeriko \$49.95

Helping people to learn English as a second language, LTV provides more than 30 situations and 150 exercises designed to improve oral comprehension for many levels of competence. Teens through adults.



Dr. Wellman: First-aid remedies and health tips.



Preschoolars should get a kick out of CDTV, too.

Mind Run CDTV Publishing \$39.95

An entertaining interactive set of exercises to test your intellectual aptitudes and to sharpen your capabilities in memory, stress, listening, reflexes, logic, and understanding of machines. Children, teens, and adults.

Mud Puddle Discis \$49.95

In order to escape the mud puddle that is chasing her, Julie Ann must outsmart it. A kinder, gentler approach to inculcating the values of cleanliness and tidiness. Ages 6 and up.

My Paint Saddleback Graphics \$39.95

An easy-to-use, classroom-tested paint program based entirely upon intuitive symbols. Features include colorful animated symbols for all tools, a "coloring" book of over 100 pictures, sounds, special effects, and more. Ages 3-9.

The Paper Bag Princess Discis

\$49.95

A fairy tale with a contemporary twist: The princess is the heroine who saves the prince from the dragon. Being a modern couple, however, they don't live entirely happily ever after. Ages 6 and up.

Scary Poems for Rotten Kids Discis \$59.95

Traditional fears of the dark or of monsters are not the only ones faced by today's children. Environmental dangers, war, and the like are also part of the new things that "go bump in the night"—as these poems will attest. Ages 8 and up.

The Tala of Peter Rabbit Discis \$59.95

Beatrix Potter's universally loved tale of naughty Peter's escape from Mr. McGregor's garden has a timeless appeal for all small children—and many adults! Ages 5 and up.

Thomas' Snowsuit Discis

Getting Thomas to put on his snowsuit was an impossible task for all the adults, but he quickly jumps into the suit when a friend comes to invite him out to play. Ages 5 and up.

ENTERTAINMENT

All Dogs Go to Heaven Merit Softwara \$49.95

Transform your TV into an electronic coloring book with 30 coloring-book pictures, spoken words, and songs telling the story of Don Bluth's roguish German Shepherd, Charlie B. Barkin.

Tha Case of the Cautious Condor Tiger Media \$49.95

Featured in the "Titles/Disc" sidebar.



\$49.95

Chess, checkers, and backgammon vs. a human opponent or your CDTV player-at several levels of difficulty.

Psycho Killer On-Line Entertainment

An interactive thriller game with real actors and a live locale. Play well...or elsel

Snoopy: The Case of the Missing Blanket The Edge Interactiva Media \$49.95

Help Detective Snoopy find Linus' missing blanket in this interactive cartoon game.

Wrath of the Demon

ReadySoft \$49.95

This 3-D graphics adventure pits you against the Demon to save a princess and her father's realm.

Xenon 2: Megablast MirrorSoft \$49.95

A remixed, remastered version of the arcade hit Megablast in full "3-D sound."

MUSIC

Music Maker CDTV Publishing \$49.95

Learn to play music in minutes-with 17 song tracks and more than 40 instruments. Three different skill levels.

REFERENCE

The American Heritaga Illustrated Encyclopedic Dictionary Xiphias

\$69.95 Featured in the "Titles/Disc" sidebar.

Complete Works of Shakespeare Animated Pixels

\$49.95

All the Bard's plays, poems, and sonnets collected on one disc-with illustrated scenes from original woodcuts. Reference utilities include an automatic word/phrase look-up and a complete concordance.

Dr. Wallman Family Health Advisar CDTV Publishing

\$79.95

Featured in the "Titles/Disc" sidebar.

Fred Fish Collection HyparMedia Concapts \$69.95

The entire 410-floppy-disk Fred Fish library of freely distributable Amiga software on one CD. More than 46,000 separate files.





The Time Table of History uses pictures, taxt, and aound and lats you zaro in on avants with its timalina featura.

Tha lilustrated Holy Bibia Animated Pixais

\$49.95

The complete texts of the Old and New Testaments with full-color illustrations. Includes a slide-show option and search facilities.

The New Basics Electronic Cookbook Xinhias

\$59.95

1800 entries from the Silver Palate library of recipes-with more than 450 full-color photos.

Tima Table of Hiatory: Busineas, Politics, and Media **Xiphias** \$59.95

More than 6000 stories, thousands of quotes,

images and reproduced documents, and audio effects and narration tell the story of the quest for wealth, power, and knowledge.

Time Table of History: Scianca and innovation Xiphias \$59.95

Featured in the "Titles/Disc" sidebar.

World Viata Atlas Applied Optical Media \$79.95

Featured in the "Titles/Disc" sidebar.

Future Titles

Arta & Laigura

Animated Coloring Book (Gold Disk) Dinosaurs for Hire (Wright Enterprises) Gardenfax Series (CDTV Publishing) Guinness CDTV Disc of Records (CDTV) Ninja High School Comix (Wright) Our House (Context Systems)

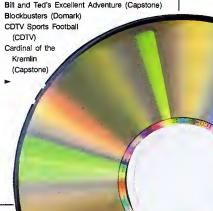
Education

A Long Hard Day on the Ranch (Discis) Cinderella (Discis)

Fun School: 5-7 (Database Software) Fun School: Over 7's (Database Software) Heather Hits Her First Home Run (Discis) Mickey's 1 2 3's (Walt Disney) Moving Gives Me a Stomachache (Discis) North Polar Expedition (Virgin Mastertronic) The Tale of Benjamin Bunny (Discis)

Entertainment

Air Traffic Controller (Logic Plus) Angel of the City (Tiger Media) B.A.T. (UBI Soft) Basketball (Context Systems) Bill and Ted's Excellent Adventure (Capstone) Blockbusters (Domark)



Buyer's Guide, continued

Dominion (Dominion Software)
Drakkhen (Infogrames)
Dungeon Master (FTL Games)
Falcon (Spectrum Holobyte / MirrorSoft)
Future Wars (Interplay Productions)
Herewith the Clues (Domark)
Horse Racing (Context)
Indiana Jones and the Last Crusade (CDTV)
Indoor Sports (Context)
Jack Nicklaus Golf (Accolade)
Loom (CDTV)
Many Roads to Murder (CDTV)
Murder, Anyone? (CDTV)

Murder off Miami (Domark)
Pro Tennis Tour II (UBI Soft)
Secret of Monkey Island (CDTV)
Sherlock Holmes, Consulting Detective
(Icom Simulations)
Sim City (Maxis)
Spirit of Excalibur (Virgin)
Spy vs. Spy (CDTV)
Terminator (Bethesda Software)
Trivial Pursuit (Domark)
Trump Castle (Capstone)
Unreal (UBI Soft)
Wayne Gretzky Hockey (Bethesda)

Music

CDTV Disc Jockey (Sassenrath Research) Musicolor (Virgin)

Reference

American Vista Atlas (Applied Optical Media)
Family Drug and Poison Information
(NE Louislana University)
Living Book Series (Diglgraphic)
New Grolier Electronic Encyclopedia (CDTV)
Time Table of the Arts (Xiphias)

CDTV Developers

Accolade

550 S. Winchester Blvd. San Jose, CA 95128 408/985-1700

Animated Pixels Albemarle House Osborne Rd. Southsea, Hants. PO5 3LB, UK

0705-733588

Applied Optical Media 18 Great Valley Pkwy. Malvern, PA 19355 915/889-9564

Bethesda Software 15235 Shady Grove Rd., Suite 100 Rockville, MD 20850 301/926-8300

Capstone 14160 S.W. 139th Court Miami, FL 33186

CDTV Publishing 1200 Wilson Drive West Chester, PA 19380 215/431-9100

Context Systems The Technology Center 333 Bayberry Rd. Hatboro, PA 19040 215/675-5000

Database Software

Europa House Adlington Park, Macclesfield, Ches., SK10 4NP, UK 0625-859333 Discis Knowledge Research

45 Sheppard Ave. E., Suite 410 Toronto, Ontario M2N 5W9 Canada 416/250-6537 Domark

Ferry House 51-57 Lacy Rd. Putney London SW15 1PR, UK 081-780-2222

Dominion Software & Design 3328 Oakshade Court Fairfax, VA 22033 703/318-8270

The Edge Interactive Media 151 S. El Molina Ave., Suite 201 Pasadena, CA 91101

FTL Games 6160 Lusk Blvd., Suite C-206 San Diego, CA 98121 619/453-5711

Free Spirit Software 58 Noble St. Kutztown, PA 19530 215/683-5609

818/577-9375

Gold Disk 5155 Spectrum Way, Unit 5 Mississauga, Ontario L4W 5A1 Canada 416/602-4000 800/465-3375

PO Box 85303 Racine, W1 53408 414/632-3766 Icom Simulations 648 S. Wheeling Rd.

Hypermedia Concepts

Wheeling, IL 60090 708/520-4440 **Infogrames** 84 Rue de lier Mars

69628 Villeurbranne cedex France Interplay Productions 3710 S. Susan, #100 Santa Ana, CA 92704 714/549-9001

Jeriko 5 Boulevarde Poissoniere 75002 Paris France

Logic Plus 18 Whitesands Grove MGR Park Stoke-on-Trent, Staffs., UK 0782-398840

Maxis 1042 Country Club Drive, Suite C Moraga, CA 94556 415/376-6434

Merit Software 13635 Gamma Rd. Dallas, TX 75244 214/385-2353

MirrorSoft Irwin House 118 Southwark St. London SEI 0SW, UK 071-928-1454

Multimedia Corp.

109X Regent's Park Rd. London NW1 8UR, UK 071-722-7595 On-Line Entertainment 14 Falcon Way

Clippers Quay London E14 9UP, UK ReadySoft 30 Wertheim Court, U

ReadySoft
30 Wertheim Court, Unit 2
Richmond Hill, Ontario
L4B 1B9 Canada
416/731-4175

Saddleback Graphics 3621 W. MacArthur Blvd. Suite 119 Santa Ana, CA 92628 714/540-4062

Sassenrath Research 387 N. State St., Suite 200 Ukiah, CA 95482 707/462-4878

Tiger Media 5801 E. Slauson, Suite 200 Los Angeles, CA 90040 213/721-8282

Titus Software 28ter Avenue de Versailles 93220 Gagny France

UBI Soft 8/10 Rue de Valmy 93100 Montreuil Sous Bois

Virgin Mastertronic 18001 Cowan St., Suites A & B Irvine, CA 92714 714/833-8710

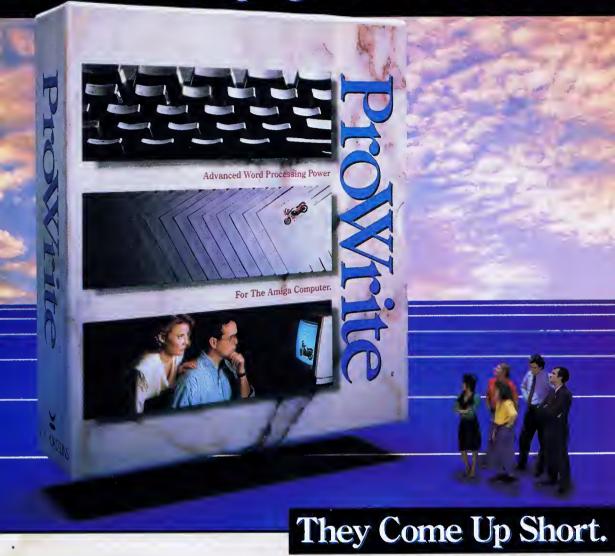
500 S. Buena Vista St. Burbank, CA 91521 818/567-5360 Wright Enterprises Hudson Rd.

Walt Disney Software

Temple, NH 03084 603/878-1491 Xiphias Helms Hall

1758 Venice Blvd. Los Angeles, CA 90034 213/841-2790

How Does The Competition Measure Up Against ProWrite?



ProWrite®. Performance That Stands Out In A Crowd.

In this highly competitive world, there is always a leader. An innovator. The one that the competition looks up to. In the world of Amiga word processors, ProWrite is that leader.

ProWrite has the high performance features you need. A 100,000 word spelling checker that can check as you type. A thesaurus with over 300,000 cross references. Multiple columns with both snaking and parallel text flow. Multiple fonts and graphics. Powerful macros. Exceptional speed.

With all this and more, ProWrite stands

head and shoulders above the competition. Which is why ProWrite is the best selling Amiga word processor. And the best choice for every Amiga owner.

Because it is always better to lead than to follow.

Look To The Leader In Amiga Word Processing.

Like all of our products, ProWrite combines high performance, an intuitive environment, and easy to use commands. When it comes to powerful yet practical word processing, ProWrite is the target the competition shoots for.

Circle 78 on Reader Service card.

So whatever your word processing needs, from A/V scripts, to novels, business reports, storyboards, or letters to Aunt Agnus, go straight to the top. Discover the power of ProWrite from New Horizons.



First In Personal Productivity And Creativity

New Horizons Software, Inc. 206 Wild Basin Road, Suite 109 Austin, Texas 78746 (512) 328-6650

ProWrite is a registered trademark of New Horizons Software, Inc. Amga is a registered trademark of Commodore-Amiga, Inc. From p. 22.

tion is a new addition to the original design, allowing MIDI devices to input to CDTV and vice-versa.

OUT OF THE BOX. . . AND INTO THE CHAIR

There are several options for hooking up CDTV. If you have an existing stereo monitor, you can simply plug in your CDTV audio cords and play away. This makes for a nice, compact desktop unit, although the sound quality cannot match a typical home stereo.

Commodore assumes that most of you will hook CDTV up to your TV set, using the supplied RF Modulator, with audio then going through your stereo system. This clearly yields the best sound quality and also puts CDTV where Commodore wants it—right in your living room!

If you don't have a stereo in your living room, you can connect CDTV directly to your TV, although the sound quality leaves a bit to be desired—at least with

the TV I tried.

Once you've set up your system, you will be in for a treat when it comes to operating it. CDTV defines a whole new style of computer interface—one that is more kiosk-like than computer-oriented. Because the unit is meant to be commanded by an individual sitting on a couch using a low-res pointing device, all menus are simple and clear, all fonts are quite large, and all screens are decidedly uncluttered.

Basically, you navigate through a series of large boxes—pushing "A" to advance, select, or enter, and "B" to go back. Although there is an enter button, it is used only to save information to bookmark memory (about 2K of memory used for such small tasks as saving a place in a game) or to confirm an "A" command. There is also an escape button, but this is used primarily as a help key. In joystick mode, "A" acts as the firebutton.

Commodore provided CDTV developers with interface guidelines stricter than any imposed on Amiga software. The goal of these guidelines is not just ease of use, but also uniformity in look and feel. One problem developers must overcome, however, is the slowness of the CD drive. Each program must inform the user when a command has been accepted and is being processed; otherwise, the impatient user will continue to pound away at the remote.

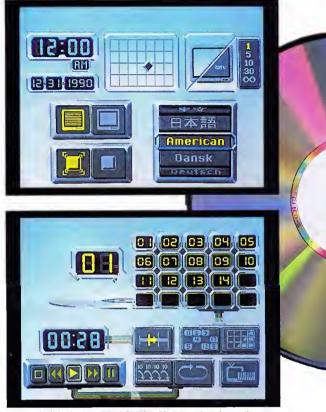
Loading and unloading programs is about as simple as it gets. Simply pop the CD in to load or out to unload. CDTV reboots at each exit, and all ap-

plications are completely autobooting.

Because CDTV is not marketed primarily as a computer, there is a wealth of new terminology to describe common computer functions. For instance, peripherals are "accessories," boot becomes "start," cursor becomes "pointer," icon becomes "symbol," RAM becomes "memory," and software—as you'll be reminded many times in the sidebars and buyer's guide—becomes "title." Some terms, such as guru and directory, have been dispensed with altogether.

REPORT CARD

In terms of overall performance, CDTV garners mixed, but generally excellent, grades. Like any Amiga, the graphics, screen changes, and cursor movements have a nice snap. For those accustomed to speedy hard drives, however, the access time from the CD-ROM will seem a trifle slow. This is a problem with all CD-ROM devices, not just CDTV. As developers



"Interactive" is the byword of CDTV—with users choosing options from simple, graphical menus and control panels by using the remote controller.

learn a few more preloading and memory-saving tricks, their applications should become more lively.

For now at least, many people may find themselves pushing the buttons again and again to make sure they have properly issued their commands, which can sometimes take a few poundings. Applications such as Applied Optical Media's World Vista Atlas solves this input problem by issuing a solid beep when the key press has succeeded.

On the other hand, the combination of simple, bold graphics, near-photographic images, hand-held control, and CD-quality sound is quite remarkable—

regardless of speed.

CDTV could represent a new, exciting, and very different era for many Amiga users. Hard-core users may not like the sluggishness of the CD drive, the limited RAM, or the remote-control device. Others, though, will welcome the excellent sound and the innovative style of application. But anyone contemplating shelling out a grand for such a system should get some demos first. Since the proof will be in the applications, let them help you decide. In the meantime, check out the "Titles/Disc" sidebar that highlights some of the applications available, plus the buyer's guide for a complete list of all CDTV titles to date.



The Heavyweight

For your most demanding database needs, look no further than Superbase® Professional 4, the heavyweight database for the Amiga. The result of more than two years intensive scrutiny by some of the world's largest organizations, this technology won the largest Defense Department PC contract ever awarded and is now available for the Amiga.

Superbase Professional 4 isn't merely an upgrade from our best-selling Superbase Professional, it's an entirely new package absolutely bulging with new features like Workbench 2.0 look and feel, a visual object-oriented Form Designer, over 100 new DML programming commands and the enormous capacity to expand to meet your growing needs.

From the simple to the complex

Now fully cross-compatible with our best-selling PC version, Superbase 4 for Windows, Superbase Professional 4 provides an interface easy enough for novices to learn and use, along with the tools and power to build the most complex database systems you'll ever need. Applications port easily between both environments for added flexibility.

The unique VCR-style Control Panel lets you browse through loads of data, and an improved Form Designer gives you the ability to design custom input screens and presentation-quality output forms quickly and easily. Command pushbuttons, a graphical labels facility, expanded ARexx support and direct dBase file support are just a few of the new features you'll find in Superbase Professional 4.

Heavy numbers

Superbase Professional 4 is a heavyweight in the numbers department too. Up to a billion records per file with up to 999 indices, all open and updated dynamically. Internal text fields can contain up to 4,000 characters and external text can be of unlimited length. There's no limit to the number of fields, open files or relational joins. The only limit is your imagination.

Add a ton of other features like image and sound support (IFF, PCX, GIF and more), telecommunications, a built-in text editor for mailmerges and other operations. Multi-file queries, a banded report generator and WYSIWYG form design all combine to make Superbase Professional the heavyweight among database programs.

Superbase Professional 4 is available now at your favorite dealer, or call us for upgrade information.

Superbase Professional 4

\$495.00

SUPERBASE®

Precision Software

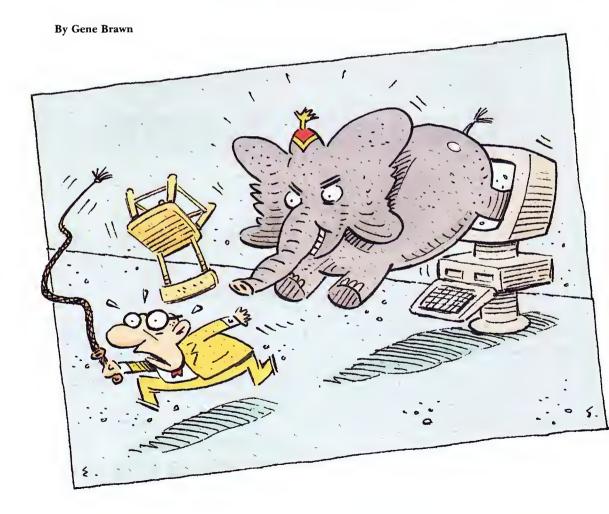
8404 Sterling Street • Irving, TX 75063 Tel: (214) 929-4888 • (800) 562-9909 Fax: (214) 929-1655 Precision Software

Superbase as a registered trademark of Precision Software, Ltd. All rights reserved. Precision acknowledges all other trademarks he

ANIM

ANIM files can quickly become ANIMal files—huge raging beasts that consume vast

Here are 15 handy tips designed to "squeeze" your animation



quantities of valuable system memory, storage space, and loading time.

files and tame them into more manageable proportions.

n the pitcher's mound, Charlie Brown leans in for the sign from Linus behind the plate. Shakes him off twice. Goes into his windup and delivers a slow, hanging curve. The opposing batter uncorks a powerful swing and hits a towering grand slam over Snoopy's head in left. A "4" drops into place in the first-inning slot on the scoreboard and the Peanuts gang is already behind. Back to the dugout, where, mouth opening

wide, Lucy cries, "Oh, Charlie Brown, can't you do anything right!"

A simple, familiar animation sequence, but animator Schulz may have used up an entire drawing pad or two, from his stock of thousands, to do all the frames in the sequence. While animation on the Amiga can make your job simpler, you still face a monumental resource problem: Even simple animation files eat up huge amounts of disk-storage space, system RAM, and time spent in drawing individual frames.

If you have unlimited means, you can just whip out your checkbook and buy megabytes of memory and mass storage. The rest of us, however, must learn to do more with less. The following hints and techniques, ranging from creating the smallest possible ANIM files to organizing your disks intelligently, will help you to get the most from your Amiga animations. I've organized my fifteen efficiency tips with the first ten directed more towards novices and the last five geared for more seasoned users.

Most of the performance problems encountered by Amiga animators are attributable to the ANIM format, which even though it represents a filecompression scheme, still often results in the production of tremendously large, unwieldy files. (See the "Getting Started" sidebar for more particulars on the ANIM format.) Accordingly, many of my tips describe ways to reduce the size of your ANIMs; a smaller file occupies less disk real estate, loads faster, and uses less of your precious RAM. While some of the more basic techniques may seem obvious or too simple to include, they bear repeating, if only because you will use them so often. Also, for the less experienced animator to fully understand these tricks, it is

Background Basics

IF YOU ARE a bit fuzzy on the aubject of the Amiga's graphic display, hara's a quick crash course. Behind your Amiga's display ara up to six "hidden" screens. called bitplanes, aach duplicating the visible acreen in width and height. Whan you decide on the number of colors for your palette, you are actually telling tha software to creata a display with one to five bitpianea. (in HAM-Hold-and-Modifyand Extra_Halfbrita modes, six-bitplane palettes are created with the help of soma sophisticated hardwara tricks, but we will ignore them for now.) If you creata a paiette of two colora, the display manager creates a single bitplane. Palettea of four, eight, aixteen, and thirty-two colors result in the creation of two, three, four, and five bitplanea, respectively, in conjunction with this, each bitpiane is assigned a valua of 1, 2, 4, 8,

Imagine a lina drawn from any pixel, extanding through all fiva bitpianes. Tha display manager examines all the pixels on this iina. If a hidden pixel is "on," the

aoftware assigns it a value equal to ita bitojana numbar: otherwise ita value la 0. The aum of theaa values represents the palette register used to draw the pixel. For example, if we indicate that hidden pixais with 1's (on) and 0's (off), then a pixei drawn with tha color in registar 19 would be 10011 (raading tha planas from right to left). Since bitplana 1=1, bitpiane 2=2, and bitpiane 5 = 16, the sum of the activated pixels is 19.

Tha important thing to remember is that this is a reg-Istar number, not a apecific color. Keep this in mind because it ia Important to underatanding tha techniquas involved in some of tha tips presented in tha articla.

WHAT'S AN ANIM, ANYWAY?

ANIM is an animationcompression flia standard developed by Gary Bonham, author of ANiMagic (Oxxl) and tha freely diatributable player program ShowANIM. it has gone through quita a few versiona sinca ita fledgling days when Aegis Development was pushing its acceptance-not very sucnecessary to have a basic understanding of the Amiga's graphic display (also covered in the "Getting Started" sidebar).

BY THE NUMBERS:

TEN STARTER TIPS

The first two-thirds of our "Efficient Fifteen" are designed for less experienced animators, but all ten of them add up to major savings in valuable resources, so feel free to take a refresher course even if you've been at the animation game for a while. Otherwise, pick us up in the second part of the course. (For details on how to contact manufacturers of programs mentioned in either part of this article, consult the "Manufacturers'/ Distributors' Addresses" list on p. 88.)



Use Fewer Colors

There is a direct correlation between the palette and resolution of an animation and its size: More colors and/or higher resolution mean much larger files. Bigger animation files load and play back more slowly. For example, a 320 × 200 two-color image consumes 64,000 pixels to display its single bitplane, while a 32-color palette requires a whopping 320,000 pixels (five planes × 64,000). It should be obvious that if you want to save memory, you should use fewer colors.

If you are not using all the colors in your animation's palette, remap the ANIM to use as few colors as possible, filling the lower registers (0–16) first. In other words, if you are using only 14 colors of a 32-color palette, use your paint program to remap the picture as a four-bitplane, 16-color image. This technique is especially useful if you must eliminate a few colors to reduce the size. Many times an animation will survive a reduction of colors virtually unchanged.

In similar fashion, you may be able to reduce an

cessfully—as an industry standard. The ANIM format is now very widely aupported, and word haa it that Bonham is working on yet another update.

ANIMs are part of the IFF (Interchange File Format) family. When your Amlga atorea your animation sequence as an ANIM file, it is compreased ao that only the initial scena and the elemanta that change between framea ara aaved. This in itaelf can cut down significantly on the expenditure of valuable system memory and disk-storage space, at

the same time allowing for nearly real-time playback of the animation.

Unfortunately, ANIM files still contain so much information that they tend to become very large very quickly. Just a few seconds of fairly complex animation will produce an ANIM file larger than the 880K that can fit on a standard floppy disk. This is the reason why more crafty, economical measures, such aa the tips contained in the main article, are required to handle ANIM files efficiently.

-GB

animation's resolution in order to reduce its size. Use an image-processing program, such as The Art Department (\$89.95, ASDG) or Art Department Professional (\$199.95), to change the resolution of, say, a 320 × 400 image to 320 × 200. You will be surprised how effective such a simple adjustment can be.

TIP 2

Use Smaller Screens

Next, ask yourself if you really need the entire screen for your image. If you are using The Director 2 (\$129.95, Right Answers Group) or DeluxeVideo III (\$149.95, Electronic Arts), you can display less-than-full-size screens and dramatically reduce your storage requirements. If your presentation program does not have this feature, save the undersized screen as a brush and stamp it in place on a blank background screen just before you display the image.

TIP 3

Overscan Is Expensive

If you decide to use the Amiga's overscan display mode for your ANIM, beware! Overscan files are deceiving. That narrow band you add around the edge of the picture increases the size of the image by more than 30 percent. This usually results in a much larger file than you anticipated and, worse, an animation that does not play very fast. The solution is easy: Use the normal format whenever possible. For example, overscan is unnecessary if your static image is smaller than a full screen and it appears on a solid-color background. If you set the border color (color 0) to the same color as your picture's background, you will never see the surrounding frame—cheap overscan!

TIP 4

Use Brushes, Not ANIMS

Another question to consider is whether the sequence needs to be an ANIM or whether your software can do the job for you, instead. For example, if you need to move a title from left to right across the screen, you could create an ANIM using the nifty Move menu in DeluxePaint III (\$149.95, Electronic Arts) to automate the progression of the brush over the background. But why not eliminate DPaint and the ANIM altogether? Instead, you could use DVideo III's Path tool to accomplish the same thing in real time. Save the brush and picture files separately, and let your presentation program do the rest. This technique fails miserably (the results will be slow and jerky) if you have too many brushes to move, or if the brush is too large. If that is the case, however, try using smaller or solid-color brushes whenever possible, or, if you can organize it, try staggering the brushes so that no more than two or three appear on the screen at the same time. >

ATONCE

THE ULTIMATE PC/AT EMULATOR FOR YOUR AMIGA

\$398 Manufacturer's Suggested Retail Price

GATE ARRAY -

The ATonce Gate Array, the ATonce Chip-Level Emulation and ATonce AT-BIOS give the emulator a very high degree of AT compatibility.

ATonce -THE 286 EMULATOR

ATonce is the ultimate PC/AT emulator for your Amiga 500 or Amiga 2000 computer. ATonce gives your Amiga a complete AT emulation, that includes an AT compatible BIOS, emulation of the parallel and serial ports, sound, color graphics and hard disk support, yet while running as a task within AmigaDos! Thanks to the use of a custom made Gate Array and SMT technology the ATonce board is incredibly compact and easy to fit. ATonce plugs directly into the Amiga's 68000 CPU socket and no soldering is required.



Fitting is a 10 minute operation* and full installation instructions are included in the user manual. Each ATonce is supplied with a high quality low power Motorola 68000 CPU, saving you time with the installation, providing a high degree of realibility and leaving you your original as a spare! ATonce does not affect the normal operation of your Amiga and is totally transparent when not in use.

*Your dealer will be able to fit ATonce for a small charge if required.

Call Compuserve for product and technical information Mailbox # 100015,330

INCREDIBLE SPECIFICATIONS

- Low Power 16 Bit 80286 CPU 7.2Mhz clock speed
- SMT (Surface Mount Technology) compact circuit board with low power comsumption
- Highly integrated CMOS Gate-Array with embedded Interrupt Controller and Memory Management Unit
- High quality Motorola 68000 CPU
- Easy 10 minute installation -NO SOLDERING
- ATonce can be used with the Amiga 2000 by the use of a special adapter that plugs into the 86 pin processor slot of the Amiga 2000
- Norton SI rating: 6.1 MIPS Test: 70%
- Full 640KB of DOS memory available on 1
 MB Amiga. All memory above 1MB can be used as Extended or Expanded memory
- ATonce will work with all autoconfigurating autobootable Commodore compatible hard disk systems that use an AmigaDos compatible hard disk driver.
 Up to 24, 32 MB partitions are available under MSDOS 4.01. MSDOS can be booted directly from your hard disk
- With ATonce the following video emulations are available: CGA, Hercules*, Olivetti* and Toshiba3100*, The Amiga 500 Blitter is fully utilized. (* these modes use interlace)

ATonce is State-of-the-Art technology. Developed and produced in Germany

MOTOROLA 68000 CPU

Each ATonce comes complete with a high quality original Motorola 68000 CPU.

80286 CPU

ATonce is based on the standard AT microprocessor.

ACCESS TO 1000's OF MSDOS PROGRAMS

- ATonce runs unrestricted as a task on the Amiga computer
- Complete integration of the internal 3.5" disk drive as a 720KB MSDOS drive.
 External 3.5" and 5.25" disk drives are fully supported
- The Amiga mouse can be used as a serial Microsoft mouse. It can be operate at COM1 as well as COM2
- The parallel interface can be used as LPT1 under MSDOS



- ATonce supports all AT sound facilities, the AT real time clock and CMOS RAM
- All MSDOS versions from 3.2 up to 4.01 have been successfully tested
- ATonce is delivered complete with a detailed user manual. A 3.5" Amiga diskette is supplied that contains the installation and emulation software and other useful tools. MSDOS is not supplied
- Free software updates to all registered owners!

For full product information please contact your local Amiga dealer

AT is a trademark of IBM. Commodore and Amiga are trademarks of Commodore. MSDOS and Windows 3.0 are trademarks of Microsoft. Hercules, Motorola, Olivetti and Toshiba are trademarks. ATonce is the registered German trademark of vortex Computersystems GmbH.

5

Build Your Pictures "On the Fly"

For a technique similar to that above for still images, use brushes stamped on a software-generated background to build static images on the fly. This is particularly useful if you have repeating elements throughout your presentation. For example, if a logo is to appear on five different screens, save it once as a brush and stamp it in place before you display the screens.

6

Draw It, Don't Load It

If your favorite application has any tools for drawing to the screen, by all means use them to create simple images such as title screens, company logos, borders, and backgrounds. The Amiga's custom graphics chips can draw these elements faster than you can load them from a file, preserving your precious disk space for more important elements. This tip is particularly appropriate for text screens. It is a waste of memory to save a text screen as a picture file when your presentation software can do the typing for you.

7

Don't Move the Pixels, Move the Colors

Color cycling is one of those obvious, but often overlooked space-saving techniques. Do not neglect color cycling just because it is not "real" animation. Cycling through the colors in the palette is often all you need to achieve the illusion of motion. In addition, because color cycling operates on a single frame, it adds nothing to the file size. (See "Accent on Graphics," May '90, p. 50, for a detailed description of the color-cycling techniques.)

TIP 8

34 June 1991

Patterns and Dithering: Just Say No!

Digitized or dithered animations may be impressive, but they place severe strains on your system resources. Digitized animations have so many changes per frame that the resulting ANIM may be larger than all the constituent frames added together! If you find yourself faced with this dilemma, remove some or all of the dithering with your paint program, either by smoothing each frame of a digitized,

smoothing each frame of a digitized, live-action sequence or by using your program's palette tool to merge and reduce the number of dithered colors in the frames.

9

Watch Your Loops

Remember that the program with which you create your ANIM files may automatically append the first two frames to the end of your opus so that the animation will "loop" endlessly upon playback. Looping is a powerful tool in the animator's repertoire, but you will not need these extra frames if your creation does not repeat, so don't include them. DPaint III users should instruct the program to save two fewer frames than the total displayed in the title bar. Other programs usually have a software switch in the file menu to accomplish the same thing.

10

Sounds Like A Plan

Use SMUS (Simple Music Score) files whenever possible. These are files created with scoring programs such as Deluxe Music Construction Set (\$99.95, Electronic Arts) or Music-X (\$299.95, Micro-Illusions). Although a SMUS score can never equal the dynamic range of a song digitized directly from a CD or a record, it will be much, much smaller. Commodore's AmigaVision (\$149.95), The Director 2, and DeluxeVideo III support standard SMUS scores as well as 8SVX sampled (digitized) sounds.

While we're on the subject, remember to reuse digitized samples whenever possible. It amazes me how many different sounds can be created from a single sample by varying the pitch or frequency of the original. For example, I changed a dripping water sound into that of a closing door simply by changing its playback frequency.

THE HIGH 5:

ADVANCED TECHNIQUES

If you employ all my basic tricks and still wind up with a bloated, 500-frame ANIM that takes absolutely forever to load, then you probably need more advanced help. Although the following techniques are quite straightforward, they will be easier to grasp if you already have a basic familiarity with the Amiga's internal image structures and the ANIM standard. Review the "Getting Started" sidebar if you need to bone up on these.



Pack Your Palettes, Pardner

"Palette packing" can reduce the size of your ANIM files by at least 20 percent. This somewhat-esoteric technique involves swapping the colors in your ANIM palette and then remapping the sequence to achieve a smaller file. No other changes to your animation are necessary.

THE KITCHEN SYNC—KOMPLETELY
INTEGRATED TIME BASE CORRECTORS HAVING
EVERYTHING NECESSARY TO SYNCHRONIZE
2 INDEPENDENT VIDEO SOURCES.

Completely synchronize not one, but two independent video sources for use with virtually any switcher or digital video effects system requiring synchronous video inputs.

- Two complete infinite window time base correctors on one IBM AT/Amiga compatible cord
- Works with ony video source, including consumer VCRs and comcorders
- S-VHS and Hi-8 compotible Optional Y/C output
- Great for use with the Video Tooster

When they created the Toaster, they threw in everything but the Kitchen Sync.

\$1895



SuperGen

GENLOCK AND OVERLAY SYSTEM

- Broodcast quality RS-170A composite output
- Two independent dissolve controls
- Softwore controllable
- Compotible with all Amigo® models
- Dual video outputs Key output
- Selectoble 3.58MHz notch filter

\$749.95



SuperGen2000

THE FIRST TRUE Y/C GENLOCK & OVERLAY CARD FOR THE AMIGA® 2000 SERIES COMPUTERS

- S-VHS, ED-BETA, Hi8 composible
- Broadcost quolity NTSC RS-170A output
- Built in SC/H phose odjustobility
- Built in sync generator Dissolves

\$1995



DIGITAL

CREATIONS

FOR MORE INFORMATION, CONTACT YOUR DEALER OR CALL 916/344-4825 FAX 916/635-0475

If you don't believe me, try this simple example. Using DeluxePaint III, create a solid 100 × 100-pixel brush with the color in register number 1. Use the Move menu to animate the brush from left to right across the screen. When I tried it, my test ANIM for this sequence totaled 6630 bytes. Now repeat the process but use register number 31 for the brush's color. This time, my animation consumed 33,150 bytes. Both ANIMs are identical except for the color register used to draw the brush. Why was the second file five times the size of the first?

The answer lies in the bitplanes. When your Amiga saves an ANIM, the first thing it does is to scan the sequence frame by frame, looking for changes between frames. The software calculates the differences for each bitplane. These changes are then stored with the bitplane. If a pixel drawn with color 1 (only bit 1 is "on") is transformed to color 31 (all five bits are on), then all five bits are needed to describe the new color, and the file is thus larger by fivefold. Therefore, it is to your advantage to place the colors that change the most in the lower registers, preferably those that use just one or two bitplanes.

How do you accomplish this? First, reduce the number of bitplanes used by your animation by eliminating any colors you are not using. Using the automatic Pack function located in the Color menu of PIXmate (\$49.95, Progressive Peripherals) is an ideal way to achieve such a reduction. The next step is an exercise in trial and error, at least for now. Many image-processing programs, such as Deluxe Photo-Lab's Color module, have a "histogram" function that totals the number of pixels used by each color in an image. (PhotoLab used to be available separately, but is now bundled with Electronic Arts' DVideo III.) If you use this tool to compare a few typical frames, you will see instantly those colors that vary the most.

Next, use your paint program's palette tool to swap these colors to registers 1, 2, 4, 8, or 16 (assuming a 32-color palette), and then remap the ANIM. Any color placed in one of these registers requires only one bit to describe the color. The next best locations are registers 3, 5, 6, 9, 10, 12, 17, 18, 20, and 24—all of which use only two bits. If you can put all the changing colors in these registers, your changes will never exceed two bits. A software program that automates this process would be most welcome. . . any takers?

12 Intelligent Disk Mapping

Another important, but little-used technique is the art of intelligent disk mapping. Simply put, this involves placing your files on the disk in such a way as to minimize your disk drive's head-travel time. The closer the next track, the faster the file loads and the shorter the time between segments. This is important, because AmigaDOS has the annoying habit of scattering pieces of a file around the disk, putting the bits and pieces wherever it finds space on the disk. While this uses the available disk space efficiently, the result is often a lot of grinding by the drive while it searches out the pieces of your file.

The solution here is simple. Create a final master disk by copying the necessary files one at a time, in script order, to a clean disk. If you are CLI-literate, simply use the COPY ALL (not DISKCOPY) command to reorganize and optimize your files on a clean disk.



Preload Big Files

Sometimes, even after all the manipulations mentioned above, your file is still too large to load in the amount of time available. There are a couple of easy solutions to this dilemma. Perhaps the easiest is to load the file before the animation begins and hold it in memory until you need it. Many animation programs provide a way to preload animations. Two of these, The Director 2 and AmigaVision, let you begin loading a file and then start playing it back immediately—before all the frames are loaded.

11P

Slice and Dice Big Files

Another quick fix for Director users is to break the file into smaller pieces and to load them when you have any free time during your animation. When you need the sequence, simply play the pieces as a series of contiguous animations to re-create the original. I specify The Director because it is the only presentation software I use that can switch between animations without halting everything momentarily.

15 15

Economize When You Digitize

If you digitize your animation from a live-action video sequence, remember that you do not need to copy every frame of the original. Professional animators use a technique called animating "on twos" (i.e., every second frame) in order to save time and reduce the number of frames that need to be drawn. You can profit from emulating this technique in your digitizing sessions. In fact, you may be able to extend it even further by animating "on threes" or even "fours" if the sequence does not change very much over time. Be aware that this method is not as useful for scenes with lip-synched sound tracks. It will be difficult to re-create the original timing and nuances of speech without digitizing all the frames.

While our efficiency course ends here, keep looking for other ways to economize. These hints and tips are but a small sample of the techniques available to the creative producer. Consider them as a starter set on which to build your own magician's chest of tricks. The application of a little brainpower and a basic knowledge of the Amiga's inner workings will do wonders in dealing with your animation problems.

Gene Brawn is a digital animator, graphics designer, and frequent lecturer, as well as a contributing editor to this magazine. Write to him c/o AmigaWorld, 80 Elm St., Peterborough, NH 03458.



Antidote to Chaos



Get smart!

Let Agent Laser help

you fight the forces of C.H.A.O.S.

(Criminal Hierarchy Against

Organized Systems) with this arsenal

of tips for more efficient and

productive computing.

oes it seem that a network of nefarious operatives are lurking under the cover of your CPU, conspiring to hold down your productivity level? While it's tempting to pass the blame, the real culprit is probably a lack of organization.

Your Amiga can make you even more productive than it already does. Although becoming organized

Your Amiga can make you even more productive than it already does. Although becoming organized takes effort, it is considerably easier if you have help. We're not talking about an Agent 99 to bail you out of every bungle. We're talking about the right combination of software, devices, and methods.

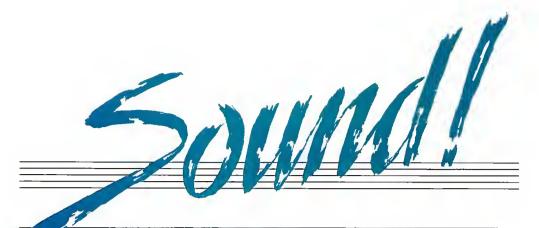
In using Amiga products, I have learned many things that keep my own computing life orderly. These tips and resources may help you, too. Even if you do not take every recommendation offered here, I bet you will find at least a few among them that can make a positive difference for you.

For details on how to contact the developers of products mentioned in this article, consult the "Manufacturers'/Distributors' Addresses" list on p. 88. Software labeled FD is freely distributable—either public domain (totally free), shareware (the author requests that you pay a fee if you keep using it), or copyrighted (the author requests credit, but no money). These programs are available through networks, BBSs, and the Fred Fish disk collection.

DISKY BUSINESS

One thing every Amiga owner should have is at least two disk drives. Because much of AmigaDOS is loaded from disk as needed, a single-floppy system is very limiting. For around \$100, a second floppy drive can save you time and aggravation, and make you a happier person.

By Harv Laser



Next Generation Digital Audio Tools from SunRize

Studio 16[™]

Turn your Amiga 2000/3000 into a professional digital audio workstation. You can record hours of audio direct to hard disk synchronized with time code. Edit a complete video sound track on your Amiga. Add special effects. Fix glitches and filter noise. Supports 16 and 12 bit audio. Studio 16 software is bundled with one of two cards:

AD1012

This 12 bit sampler card includes Studio 16 software, audio in/out, AD2105 DSP, adjustable low pass filters and a SMPTE time code reader. Sampling rates of up to 100 KHZ are supported. With the signal-to-noise ratio of a professional VTR, the AD1012 is perfect for editing video sound tracks at low cost.

AD1016

This 16 bit sampler card includes Studio 16 software, a 56001 DSP, stereo audio in/out, 8 times oversampling digital filters, digital I/O for DAT or CD hookup, MIDI in/out, and SMPTE in. With the signal-to-noise ratio of a compact disk, the AD1016 puts a modern digital recording studio in your Amiga.

Audition 4™

This advanced 8 bit sample editor continues where AudioMaster III left off. Record direct to floppy disk. 100% assembler. Real time zoom. Incredibly fast scroll. Freehand edit. Sequenced loops, Real time effects include echoes, high pass filter, low pass filter, band pass filter, stop band filter, mix, fade, flange, VU meter and oscilloscope. Editing functions include cut, copy, paste, delete, keep, invert, filter, echo, mix, fade, treble adjust, bass adjust, smooth, DC removal, invert, resample, and tune.

AD1012

Audition 4 vs. AudioMaster III Feature Audition 4 AudioMaster III Sequenced Loops Easy to Use ves yes HiFi Mode yes yes Record to Floppy Ves no Save Executable Sounds yes no no

 Preview Effects
 yes
 no

 Real Time Filters
 yes
 no

 Num.Real Time Effects
 8
 3

 Time to do 100K Echo
 22 secs
 106 secs

 Program Size
 ~100K
 ~207K

 List Price
 \$99.95
 \$99.95

Special AudioMaster Upgrade offer! AudioMaster I, II and III owners can upgrade to Audition 4 by sending your original AudioMaster disk along with \$40 + \$5 S&H to the address below.

Perfect Sound 3™

This best selling 8 bit stereo sampler includes everything you need to start recording any sound right away. Just attach Perfect Sound to your printer port and plug in your own CD player, radio, or microphone. Using the provided software you can record and edit any sound. Advanced recording hardware gives you right and left line level inputs, a mi-

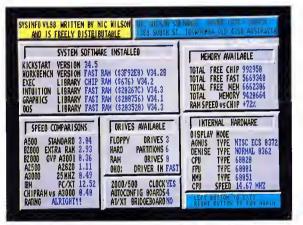
jack, noise filters, digital gain, and a hardware based sampling clock. List Price \$99.95.

crophone

For more information call SunRize at (408) 374-4962. Or fax us at (408) 374-4963. To order see your local dealer. European Representatives: FRANCE CIS (056) 363-441. GERMANY Intelligent Memory (069) 410071, SWITZERLAND Microron (032) 872429, UNITED KINGDOM HB Marketing (0753) 686000.

SunRize Industries

2959 S. Winchester Blvd., Suite 204 Campbell, CA 95008 USA



SysInfo runs its diagnostic tests in about three seconds and then displays the results on one screen.

For even greater happiness, you can speed up your floppy drives. A floppy-disk accelerator is software that provides a RAM cache to store things as you load them. Once loaded, the data is read from the RAM cache instead of from the slower mechanical disk drive. (The AmigaDOS ADDBUFFERS command does the same thing, but uses valuable chip RAM.) Facc-II (\$34.95, ASDG) uses fast RAM, it has a very effective interface for raising and lowering cache buffers, and it is something I truly miss whenever I use an Amiga without it. It is like a floppy-drive turbocharger.

Central Coast's Quarterback Tools (which, at \$89.95, provides many utilities) and B.A.D. (\$49.95, Centaur Software) can speed up your drives by defragmenting the files on your floppy and hard disks (be sure to back up your files before using them). As a disk fills up, the system may not be able to find one contiguous space in which to write a file, and may have to scatter data segments across the disk. Because the drive head must move across the disk to read a fragmented file, access slows. Files on a defragmented disk are more organized, so they load faster.

If you do not already have a hard disk, you will want one eventually. A hard disk offers almost instantaneous availability of dozens, perhaps hundreds of megabytes of programs and files (drive speeds vary, but any hard drive is far faster than a floppy). It also saves you from digging through stacks of floppies to find what you need. When you buy a hard disk, go for the greatest capacity you can comfortably afford—certainly nothing smaller than 40MB. You will soon discover that no matter how big a drive you buy, it is not big enough. You might even want to investigate

the new removable-media drives (see "Bottomless Disks," Apr. '91, p. 20, for a look at the various removable-media technologies).

Keep in mind that while every mounted hard-disk partition uses some RAM, drawers do not. Rather than creating many separate partitions, you may want to use a few large ones and put related software into subdirectories. You can add a lot of path commands to your startup sequence, but when you type a command's name at your CLI or Shell prompt, the system searches the SYS:C directory anyway. Thus, putting those often-used command-type utilities in the C directory saves you from building paths to them.

Hard-disk owners need hard-disk back-up software. My two favorite hard-disk back-up programs are Quarterback (\$69.95, Central Coast Software), and ExpressCopy (\$49.95, ExpressWay Software). Quarterback's interface makes it very fast and intuitive. ExpressCopy, however, has a flexible ARexx port and a nifty CanDo-created front end (which you can customize using INOVAITONICS' CanDo—a \$149.95 authoring program). It also creates standard AmigaDOS-format disks, while Quarterback uses a custom format that only it can read.

When trouble comes to your hard or floppy disks, it is not always necessary to reformat and restore from your backup. You can correct some disk errors by using the right utility. Two that you should not be without are DiskSalv (FD by Commodore's Dave Haynie), and FixDisk (FD by Werner Gunther). FixDisk can attack those fearsome "Key NNNN already set" or "Volume FOO is not validated!" messages. DiskSalv is purely command driven, while FixDisk sports a slick user interface. Both programs can also restore deleted files if you have not written to the disk since you deleted them.

You should also avoid having your only copy of important tools on the hard drive—it might suddenly become unreadable. Take the time to build an "emergency" disk. Start with a stripped-down copy of your original Workbench disk, leaving the L directory's libs and devs intact. Fill it with a copy of your hard-disk reconstruction tools, your name-and-address database, and your favorite terminal program, word processor, or whatever tools you frequently use. Keep this disk in a safe place. Having a first-aid kit on one disk will save you a lot of time when you need to find everything quickly.

When you install devices such as hard disks and accelerator boards in your Amiga, you can check on their performance with diagnostic and benchmarking programs. These are handy not only to verify that a new add-on is working correctly, but also for the all-important purpose of bragging to your friends about how fast and powerful your Amiga is. I recommend SI, also called System Information (from the Kramden Utilities, FD by Pregnant Badger Software); Speed (FD by Argonaut Software); Amiga Intuition

PRESENTING THE MOST DASHING TRENDSETTER SINCE EXCELENCE! 1.0



The first version of excellence! set the standards for power, features and ease of use in Amiga WYSIWYG (What You See Is What You Get) word processors. Now, excellence! v2.0 sets the standards again.

Whether you are a novice or novelist; student or professor; homemaker or executive, you'll enjoy the new, refined features an innovative pace-setter offers.

Excellence! has a personable and intuitive interface, allowing you to unlock its power in simple, understandable steps. Understandable also flourishes in the thorough reference manual that communicates with you in English, not some dialect of computerese.

•100% Color PostScript support •4 types of printer output, special HP support

· Preferences printer driver compatible

·Mix pictures with text in paragraph

· Picture scaling and cropping

· Graphics in headers, footers or footnotes

Internal printer font support

Mixed mode printing

· Landscape printing

·WYSIWYG editing

PRINTING

Mail Merge

GRAPHICS

What's new and better? First you'll notice the typing speed. It's fast! Excellence! zooms along as fast as you can type.* The Dictionary and Thesaurus are expanded with thousands of new words. Printing is extensively refined and features Mixed-Mode Printing to combine printer fonts with graphics. File and path names are longer allowing you to take advantage of hard drives. Excellence! now saves User Defined Defaults, so you start a document writing creatively, instead of mechanically changing margins. Now, that's better!

What's new? Virtual Memory Management permits document lengths limited only by disk space.

The Thesaurus displays definitions to help you find the meaning you want. Leading values can be input directly so you can quickly change to double spacing. Alternate characters elegantly insert into text. You'll find easy-to-use Hard Drive Installation and Dictionary Maintenance utilities included for your convenience.

These are only a few of the many new features and improvements available in excellence! v2.0. So, we present to you a superb product, for your ever changing needs. From Micro-Systems Software, the leader in Amiga productivity applications.

Your favorite software just keeps getting better!

Technical Specifications

ACCESSORIES

- 140 thousand word Dictionary with legal, medical, technical, scientific, geographical, and biographical supplements
- •1.4 million word Thesaurus (with definitions)
- ·Spell-as-you-type
- · Grammar and Style checker
- Bullet proof Hyphenation
- · Glossary with Macro key support
- · Macros can be assigned to almost any key
- Math
- ·Index and Tables of Content generation

FORMATTING

- Mouse and keyboard support
- •Multiple newspaper-stylecolumns (1-4)
- ·Left, Justified, Centered & Flush paragraph
- ·Left, Justified, Centered & Decimal tabs
- Multiple headers, footers and footnotes
- (odd and even headers and footers)Global font and style substitutions
- Global folic and ory is Substitution

- Page and Ruler settings stored in document
- •User defined Page Setup and Print defaults
- ·Display current date and time in document
- · Numbered footnotes

OTHER FEATURES

- Typing speed exceeds 170 words per minute
- IFF and ASCII file import
- •Free Technical Support for registered users
- Clipboard support
- Not copy protected
- Undo typing
- · Hard drive install utility
- Project icon support
 Up to 250 fonts in a single document
- Support for Interlaced windows
 Virtual memory manager
- .2, 4, or 8 color windows and color printing
- ·Long path name support
- ·Insert any standard character
- ·Low, medium & high resolution IFF support

Committed to excellence since 1978

*up to 175 words per minute





12798 Forest Hill Boulevard, Suite 202 West Palm Beach, Florida 33414 407-790-0770 FAX 407-790-1341

Dealers and Distributors Call 1-800-327-8724 See your local dealer for a demonstration,

Amiga is a registered trademark of Commodore Business Machines • PostScript is a registered trademark of Adobe Systems, Inc. • excellence! is a registered trademark of Micro-Systems Software, Inc.



One of DiskMaster's ablittles is to decompress flies compacted with the ZOO utility.



ImageFinder creates an Index of picture files using miniature screen representations.

Based Benchmarks, or AIBB (FD by LaMonte Koop); and SysInfo (FD by Nic Wilson).

A number of other programs let you view and control various aspects of your Amiga's inner workings. TaskX and ScreenX (both FD by Steve Tibbett) are two examples. The former lets you control task priority, while the latter tells you the attributes of a screen and lets you grab it as an IFF file. SnoopDOS (FD by Eddy Carroll) lists the libraries, fonts, and so on that a program requires as that program loads. Switcher (FD by Khalid Aldoseri) provides a pop-up

window that lets you flip between windows. Finally, ARTM, or Amiga Real-Time Monitor (FD by F.J. Mertens and Dietmar Jansen), combines the functions of many of these utilities.

FIGHTING FILES WITH FILES

The longer you work with a computer, the more files you acquire. This is a simple fact of life. Moving those files around from one disk or drawer to another gets to be a chore. If you do not like to use the CLI or Shell or to write scripts, then you need a directory utility. There are dozens available; each is a graphical, mouse-driven front end for AmigaDOS commands, and most have source and destination windows and many buttons for different functions.

Which utility is best usually turns into a religious argument. My favorite, the inexpensive DiskMaster (\$49.95, Progressive Peripherals & Software), is full-featured and easy to use. Not only is it great for quickly shuffling files, but it can also show pictures, play sounds, print text files, unpack compressed downloads, compress files for uploading, and make many otherwise tedious tasks fun. Other excellent directory utilities include D.U.D.E. (\$19.95, Centaur Software), and SID (FD by Timm Martin).

Find (FD by John Scheib) is a fast little utility that searches every mounted device on your system for whatever filename you feed it. It also allows wildcards. For locating a particular graphics file from the dozens or hundreds you have collected, check out Image Finder (\$65, Zardoz Software). This incredible program creates visual indexes made from miniatures of all your screens and brushes, making them easy to locate on a crowded hard disk or in piles of floppies. Image Finder will even pop up and let you "inject" the name of a picture file into your favorite paint program's requester, just by clicking on a postage-stamped version of that picture.

What do you do when you have more files than space...when your Workbench boot disk or your hard drive fills up? Hardware compression chips are not yet available for the Amiga, but there are two slick programs that can pack down your files while still allowing easy access to them. Turbo Imploder (FD by Peter Struijk and Albert Brouwer) and Power-Packer (FD by Nico Francois/Power-Peak) enable you titerally to put 80MB of data onto a 40MB drive. They can compress applications to half their existing sizes, allowing you to run the programs with just a brief hesitation as they unpack into memory after loading. Imploder can handle libraries and programs that use overlays, while Power-Packer can crunch down programs, pictures, text files, and animations.

Names, addresses, and phone numbers are important to everyone. Post-it notes and scraps of paper just do not make for an organized desk. For working most efficiently with name-and-address data, you should have a database manager. I have found Micro-

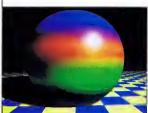








High quality RGB output for your Amiga



These images are completely unretouched photos taken from a stock 1084s RGB monitor using the basic HAM-E unit. They are pure RGB, not smeary composite.

The new HAM-E Plus is an even more potent yet virtually transparent, anti-alias engine which offers near photographic quality images on standard RGB monitors.

No other graphics expansion device offers so much performance and costs so little! And all the software to run it is free. Even upgrades!

There's not enough room to cover all the features of this system, so here's just a few.



- Paint, render, convert and image processing software
- · 18/24 bit "pure" modes
- · 256/512 color register modes · RGB pass through
- · Screen overlay/underlay
- · Screens pull up/down & go front/back · View with any IFF Viewer

· Custom brushes use blitter

Extensive ARexx[™] support

· 10 Color Cycle/Glow ranges

· Smooth zoom, rotate or scale

· Area, edge, outline fill/overfill

· Range pong, reverse, stop

· Dithered 24 bit fill mixing

· RGB and HSV spreads

· RGB, HSV, HSL, CMY palette

- · Animate via ANIM or Page Flipping
- Works with DigiView[™]
- · Completely blitter-compatible
- · NTSC encoder compatible
- · S-VHS encoder compatible · PAL & NTSC compatible
- · Uses only RGB port
- · FCC Class B. UL Listed
- · Works w/std Amiga monitors
- · Does not use Amiga power

PAINT FEATURES

- · Loads, shows GIF mexactly · "C" source code available free
- Upgrade from BBS 24 hrs/day
- · Color or 256 greys painting
- 256 color stencils
- · Matte/color/anti-alias/cycle draw
- · Prints via printer device
- · Auto enhance std IFF palettes
- · Writes IFF24. GIE™ HAM-E



- · 24 bit 1FF, 24 bit 1FF with CLUT chunks
- · 2 to 256 color standard IFF half bright
- · HAM, DKB and QRT trace
- · RGB8 and RGBN
- · Targa • GIF TM
- Dvnamic HiRes™

- · SHAM, ARZO, ARZI, AHAM, 18 bit ScanLab™
 - UPB8 brushes
- · All of the 12 different HAM-E format image file types
- · Images may be scaled and converted to 24 bit 1FF files

HAM-E PLUS™ 429.95

768 × 480 Pixel Output (NTSC) 768 × 560 Pixel Output (PAL)

HAM-E™ 299.95

384 × 480 Pixel Output (NTSC)

384 × 560 Pixel Output (PAL)

(All software works with either coil)

NEW IMAGE PROFESSIONAI™

THE MOST IMPORTANT 24 BIT IMAGE PROCESSING GRAPHIC SOFTWARE EVER CREATED FOR THE AMIGA



- · 24 bit 1FF input, output and viewing
- · Any number of named image buffers
- Image sizes to 32767 × 32767 pixels
- · 24 bit blending, clipping and compositing
- · Apply any function using paint-like tools: Freehand, Rectangle, Ellipse, Polygon,
- · Full 24 bit undo, redo and isolate
- · Displays in 24 bit, 18 bit, 256 color, or 256 greyscale
- · Blended Merge and RubThru in many ways; Color-keved, minimum. maximum and direct
- · 24 bit warping, shading, rotation, geometric distortions and scaling
- · Extremely intuitive, easy-to-use interface

*ALL SOFTWARE INCLUDED AT NO EXTRA COST WITH EVERY UNIT



Call (406) 367-5509 for more information. 398 Johnson Rd., Glasgow, MT 59230 SALES; (800) TK-AMIGA International Sales (406) 367-5513 BBS: (406) 367-ABS FAX: (406) 367-ABS FAX:











Fiche Filer (\$99) and MicroFiche Filer Plus (\$179, Software Visions) to be ideal. The programs come with truly useful templates that are perfect for home or small-business use. Both are extremely powerful, yet easy to learn and use. A less expensive alternative geared strictly towards address-book functions is Mail-O-Dex (\$49.95, KarmaSoft). It is not as fullfeatured as the Software Visions products, but Mail-O-Dex's attractive price and simplicity may be exactly what you need.

If your life, as well as your address book, needs organization, look at NAG Plus (\$99.95, Gramma Software). This program combines many features. It can store all your upcoming appointments and then cue you at the appropriate times with various sounds

and visuals.

NAG Plus, like many other programs (both FD and commercial) mentioned here, provides an ARexx port. ARexx (included with the 2.0 system software from Commodore, or purchased for \$49.95 from William S. Hawes) is a sophisticated programming

Hieros	iche Record Edi		Fiche XXX (1)
4 10	FASTM Name: 120614/		
	ASTR By: PSELVER		11873
	FASTR Title: FLICKER	TALK V & A	mn wood
	TASTR Key: FLICKER	IXER HICROHAY FLICKER FIX	EK ECSW
72	FATTER588.TXT	KICKROM, ARC PA	TCHER
-	FRMSRC, LZH		TENT.
5,A90	PED-ARTICLE LZH	RINGOTL, LIZH PA	TYPEN
enze	FENGIB 908923.LZH	KLONDIKE28.ARC PA	14195
	FEXT.LZH	RESPICE HIT FORM LIS	t ====================================
g .	PEROPONENT AND	KSW, ARC	Data Definition
ARC	FTLEHAND ARC	L143.200 Print Title:	Uscan Form
UTA INA	FILEIO.ARC	LABELS-BUT Print Form 1:	
ALD AND	FTLEHON ARC	LATTICE-CO Print Form 2:	
4-30'171	A AMERICAN III BYC		
3-98.181	FILEPAGE, LZH	LAYOUTEXAM Print Form 3:	
6-90.LZH	FILEREQ.ARC	LBD.ARC Print Totals	
7-98.1ZH	FILEREQ. ARC	LEARNUC . 20 Sort form:	Name Only
8-98.LZH	FIND10.ZOO	LIFER ARC Edit form:	Read/Scan Form
9-90.LZH_	FINDWIN, ARC	LINEBLII A Display form	Name Only
XT.LZH	FIXBASIC.LZH	LISTENV.AR	Number/Name
ΧĬ	FIXDISK.ZOO	LISTENV2.Z	Keywords Only

MicroFiche Filer and MFF Plus let you magnify and scroll through any area of a database.

language that facilitates task sharing among programs. It is useful even to nonprogrammers because most ARexx-capable software comes with some readymade macros, and hundreds more are available to download. Many such macros are extraordinarily handy and can save you lots of time.

"FREE" WHEELING

There is perhaps no single computer peripheral more useful than a modem. With a modem and a terminal program, you have access to tens of thousands of programs and files you can download into your Amiga. Before being uploaded, most files available for downloading are compressed, or "archived," thus requiring less time-and hence less expense-to transfer). For this reason, you should keep a set of programs on hand to deal with the files you download.

Your archiving collection should include PKAX for .ARC files, ZOO for .ZOO files, LHARC or LZ for .LZH files, WARP for .WRP files, LHWARP for .LHW files, DiskMasher for .DMS files, and PKAZip for .ZIP files. All of these are freely distributable. As with other command-type utilities, your SYS:C directory is the ideal place to store them. From there, they can load right up, no matter which disk or directory you are in.

Nothing can spoil a downloading session faster than someone in another room picking up an extension phone and killing your connection. Unless you live alone, you might want to consider a second phone line just for your modem. Rates vary, so consult your local phone company. Do not ask for a data-grade line; a regular voice line is fine and costs much less. Most modern apartment buildings are already wired for two or more phone lines, so turning on a second one might just take the installer a few minutes to twist some wires together and add a wall jack.

Few of us live in a town with a lot of great Amiga BBSs from which to choose, so serious modem addicts will see some serious long-distance phone bills. If you are spending more than \$30 a month calling BBSs, you should get a PCPursuit account from US Sprint/ Telenet (call 800/736-1130 for sign-up information). This service gives you 30 hours of evening and weekend modem dialing for \$30 a month, up to 2400 baud. Even better family and handicapped rates exist, if you qualify. Your unique PCPursuit ID number and password can become your magic carpet to bulletin boards and networks all over America.

Another valuable resource is the closest Amiga users' group, which gives you the chance to share tips, tricks and advice with other nearby Amiga owners. Someone two blocks away may already know the answer to the problem you have been struggling with for months. Many groups offer new-product demonstrations, hold prize raffles and have huge disk libraries you can copy. Further, local dealers often give discounts to users' group members, so you can

easily recoup your yearly dues.

Organizing ourselves is not something most of us do with ease or glee. Putting your Amiga work system in order can actually be fun, though. Certainly the rewards are something to look forward to. Regardless of which programs or methods you use in your own system, you can smile smugly to yourself when you begin to realize the time, equanimity, and even dollar savings that are sure to follow.

Harv Laser is senior chairman/sysop of People/Link's AmigaZone clubs. You can find him on Plink as CBM*HARV or on Usenet as crash!hrlaser or hrlaser-@crash.cts.com.

An external digital dual channel TBC + Frame Synchronizer for under \$1500?

"You must be kidding"

"Is it Toaster compatible"

"This must be a joke"



Guess again!

Introducing Showline's expanding Spectrum series of low-cost digital time base correctors + frame synchronizers.

Showline Spectrums™ have great features:

- · Full frame synchronizer
- Infinite window TBC
- 1 or 2 channel models
- Composite only or Composite/S-VHS models with transcoding ability
- Choose models without/with freeze frame +field with adjustable strobe control
- Digital comb filter included in specs
- Digital internal sync generators assures compatibility with ordinary consumer equipment & with 'house' sync or industrial-grade gear with advanced sync
- · Standard rack mount size

All Showline Spectrums have great specs:

0-5.5MHz bandwidth; full 8 bit quantization; 4:2:2 transparent processing at 14.318MHz (4Xfsc); S/N: >60dB & >54dB including quantization noise...plus more.

MODEL NUMBER					
500C	900C	1000C	500SC	750SC	1000SC
NUMBER	R OF TBCs				
1	2	2	1	1	2
COMPOS	SITE ONLY				
1	~	~			
S-VHS +	COMPOS	ITE + TRA	NSCODE		
			~	~	~
FREEZE	FIELD/FRA	AME + AD	JUSTABLE	STROBE	
		1	~	/	~
PROC AMPS					
		1		~	~
MIXER INCL. DISSOLVE, CUT, VERTICAL WIPE					
		1		~	1
SUGGESTED RETAIL					
\$850	\$1,450	\$1,850	\$1,295	\$1,895	\$2,695

For more information call or write:

120 Beacon Street • Boston, MA 02116 • (617) 262-6844 • Fax: (617) 262-7037



Showline Spectrum, Spectrum 1000SC/C, 900C, 750SC & 500SC/C are trademarks of Visync Technologies Corp.

All other trademarks and brands belong to their respective companies.



#28

A continuing series
of tips, techniques,
and tricks for
creating more
imaginative Amiga
graphics.

By Joel Hagen

Darkroom Dexterity

TO UNDERSTAND WHY creating a screen image is not necessarily the same as completing the finished artwork, consider this analogy from photography: As any photographer will confirm, the image on the negative is only the beginning of the creative operations that lead to the final gallery print. The work that goes on in the darkroom can radically change or subtly polish the finished image.

More and more, I am finding that this darkroom analogy applies to a category of creative processes I regularly employ with my Amiga artwork. To my delight, a new program, Art Department Professional (\$199.95, ASDG) has greatly expanded my options in these "darkroom" operations and significantly enhanced the quality of my results. (The original ASDG image processor, The Art Department, was reviewed in the Sep. '90 issue, p. 84. Watch for a feature-length review of AD Pro next month in the July issue.) For the purposes of this column, I will simply describe how I used certain features of the program in the sequence of operations required to finish the painting "Deep Reef" (opposite).

If you do not own AD Pro, you can try many of these techniques in Digi-Paint (NewTek) using a combination of the Merge Screen and Transparency settings. The results will not be quite the same, however, as those of AD Pro's 24-bit manipulations.

THREE-LAYERED COMPOSITING

Knowing the capabilities of AD Pro, I planned the painting from the outset as three layers that I would eventually "composite" as transparent overlays. (If you follow this column regularly, you know that the technique of compositing images is one of my current favorites—see "Accent on Graphics," Nov. '90, p. 66, and Feb. '91, p. 58, for more on compositing.) The more I explore transparent compositing, the more I realize it is one of the unique capabilities of the computer medium. With AD Pro translating all my images into 24-bit data, I can then

perform my manipulations at that depth before rendering the final image in the resolution and format of my choice. The AD Pro results are better than those obtained with any other software I have used to perform similar operations.

I painted the first image—the fish—in Digi-Paint 3 (NewTek) using techniques described in the Jan. '90 "Accent," (p. 40). I painted the fish against a solid black background so that by controlling Digi-Paint's transparency and hotspot settings, I could use that black to shade the forms and add a sense of dimension.

The second painting, also in Digi-Paint, is a colorful abstract of transparent shapes done with very bright saturated colors. I used saturated colors because I planned to overlay this image with the black background of the fish painting, thus knocking the colors way back.

For the third image, I used Digi-View to capture a black-and-white close-up of a stone covered with lichen. I wanted to incorporate the texture of the lichen into the painting as detail under the color, anticipating that the gray scale would reduce the intensity of the colors in the other two images.

OKAY, LOAD 'EM UP!

Setting AD Pro's Load option to Composite, I loaded the abstract as the fist image. When the requester specifying amount appeared, however, I chose to load the image under No Composite—wanting it to be the starting point for my layering operations. I then loaded the lichen image, setting the mix to 50%. This caused it to merge with the abstract image so that equal emphasis was given to both. I displayed the composite as a 320 × 400 HAM image to test the result.

Liking the textured color, I was now ready to load the fish. I set the

A new image processor offers darkroom-like control over subtle variations in the color, brightness, detail, and texture of your finished artwork.

mix to 20% to bring the fish only faintly into the image. Also, by specifying black to be a transparent color in the loading image, I ensured that only the fish would merge with my textured background, leaving surrounding colors untouched. To specify black as transparent, I entered values of 0,0,0 in the RGB transparency settings. (These settings are for 24-bit color, so they range from 0 to 255. You can specify any color you wish to be transparent.)

To create my final layer, I loaded the fish again, but this time at a 30% mix with no transparent color (RGB settings of -1,-1,-1). This resulted in bringing greater emphasis to the fish while allowing the black background to subdue the colors of the surrounding abstract texture. Because these composites are calculated at 24 bits and then rendered to HAM, the results are quite clean.

SMOOTH AND SUBTLE OPERATORS

There are a number of AD Pro "operators" that you can use to do further work on your image. (The manufacturer promises more of these operators in the future; you can simply add them to the program as they become available.) I used one such recent addition, the "blur" operator, to soften the present image. After that, I considered "Deep Reef" finished to my satisfaction as a screen painting.

I knew, however, that it was meant to be not only a screen image, but also a printed picture to accompany this article. This brings up a frequently encountered dilemma: Images always print darker than they appear on screen, even when you keep (as I do) your brightness and contrast monitor settings up at midrange. It is a difficult business adjusting images for print; sometimes it requires an act of faith to take an image you are pleased with and then tweak it into a bright, washed-out version to



In "Deep Reef" (above) ASDG's Art Department Professional was used to composite three separate Images and then to make adjustments to the screen image in preparation for printing.

send off for publication. Yet that is often exactly what is needed to get good results in print. The computer artist must always think of the image in terms of its final output, not just how it looks on the screen.

AD Professional, however, offers some very sophisticated options in balancing and adjusting that final image. One of these, the "dynamic-range" operator. analyzes the image and notes the smallest and largest values contained in the color data. It then allows you the opportunity to select a new range of maximum and minimum values and to constrain or expand all the image data to that new range of values. This is a powerful feature once you get the feel of it.

feature once you get the feel of it.

My "Deep Reef" screen image
needed to be lighter for the printed
version. It had a range of color values
from 0 to 238 out of a potential of 0
to 255. I entered a new range of 30
to 240 and executed the dynamicrange operation. The result retained

all the image detail, proved faithful to the original colors at the high end, and smoothly raised the values of the darkest colors to where I hope they will print well.

Using AD Pro, I feel as though I am in my darkroom dodging a print and experimenting with sandwiched negatives. I'm hooked on the creative opportunities this program has opened up for me. Try it.

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope for a reply.

Applied Design Basics

By Mitch Wells

EXPERIENCED DESIGNERS KNOW that what works well with the printed page usually works with presentation graphics—provided you take into account the orientation of the viewer. When working with text screens, neophyte designers tend to either clutter screens with too much information or use type that is big and clunky. You can learn much just by considering tried-and-true standards and observing how they are implemented.

Take a minute to think about how type is laid out in quality textbooks and magazines. The size of the print assumes that the reader is within one to three feet of the page. Body type is usually 10–12 points in size (a point being ½72 of an inch) and is generally set in a serif typeface in both upper and lowercase letters. (A serif typeface has small strokes at the ends of the letterforms; the text you are reading right now, and the "Applied Design Basics" heading at the top of this page both use a serif face.)

Headlines are usually done in a 36–48 point font (note that this is three to four times larger than the body type) and are sometimes in bold. They are sometimes in all uppercase characters. (All uppercase text should be reserved for short text strings—such as heads and subheads—as it is more difficult to read than mixed cases.) Subheads are usually 18–24 points, bold, and usually in upper-and lowercase letters.

Words that are all uppercase generally use serif type faces, which are considered easier to read. Subheads are usually done in sans serif (sans serif faces do not have strokes at the ends of

the letterforms; the word "Mastering" in the Mastering MultiMedia logo is an example of a sans serif font).

When determining which fonts to use, the place to start is with heads and subheads. In deciding on a size, first consider which resolution you will be working in. Keep in mind that the resolution of a monitor is much less than that of the printed page. Compensate for this by using the highest resolution available whenever possible and by anti-aliasing text (a technique that uses transparent pixels to smooth the jagged edges in computer graphics). Then consider your screen size; will one person at a time view your presentation on a standard 1084 monitor? How about a 20-inch monitor? Or, will your presentation be projected in a room full of people?

You can use the magazine-design standard for headlines as a guide when working with video screens. Headings containing two to three four-letter words typically occupy ²/₃ to ³/₄ the width of a magazine page. This is a good rule of thumb to use for presentations that are to appear on a single 14-inch monitor. Using a larger screen, ¹/₂ to ²/₃ of the screen width is adequate. Limit subheads to one-half the width of a standard screen for four four-letter words.

OUT-OF-BODY EXPERIENCES

I suggest you avoid anything resembling body text in a presentation sereen—the type is just too small. If you cannot avoid it, I suggest you use a font no less than half the size of your subhead type and a type style that is appropriate for subheads. This essentially makes anything set in body text simply a smaller subhead. Also, keep your text as brief as possible and

substitute graphics for text whenever possible.

Use a screen graph (discussed in "Mastering Multimedia," May '91, p. 74) to decide on placement for heads and subheads, and stick to these locations throughout your presentation. This will give it consistency. If you must use both a heading and a subheading on one screen, use some graphic element such as a rule or a line of bullets (evenly spaced dots) to offset the two when space permits. As with the heads and subheads themselves, try to place these graphic elements in a location that can be used consistently. If you plan to use more than one subhead on a screen, insert extra line spacing between them. It is best to use high-contrast colors for headings and mid-contrast colors for subheads-except when setting up a "build."

A build is the process of displaying a text list one line at a time. Say you have a list of three automobile manufacturers—Ford, GM, and Chrysler—that you would like to introduce individually onto your display screen. Using a build to display them, you would start by placing the word "Ford" in a bold, high-contrast color in the upper middle of the screen. In the next frame, you would add the letters "GM," also in a bold, high-contrast color, just below "Ford." At the same time, you would reduce Ford to a mid-contrast, nonbold subhead. Fi-



ARMOUR-GEDDON

Post-Holocaust. A power crazed entity desires control of earth. They develop an energy beam and intend to bounce it off a custom-built satellite back to earth. All unprotected life will be wiped out.

You select and control up to six diverse hi-tech vehicles at once in a race against time to seek and destroy enemy power lines and eventually knock out their beam generator.

Build up your arsenal by collecting enemy resources to help develop and create your own new weapon systems.

Featuring a sophisticated head-to-head serial link enabling 'being-there' realism between two players.

Armour-Geddon: Strategy and simulation synthesized to perfection.

Screen Shots from the Amiga version.





Psygnosis and their Molecule Madness

Against the clock, you use your chemical tendencies to build molecules out of atoms provided.

And don't be surprised if the very atom you don't need will be the one you're given to use next . . . Pray for a Joker Atom!

If you don't look like a mad scientist now, you will by the time you've tackled ATOMINO!

Up and Atomi

Screen Shots from the Amiga Version



nally, you would bring in "Chrysler" just as you did GM in the last frame, and place it in the lower middle of the screen. GM, then, would shrink in size and color to match Ford.

The build sequence might end with all three words as standard subheads, leading on to the next screen of your presentation. Whether or not you use the build approach, putting a graphic element (like a bullet) before each entry and aligning the elements vertically make the list easy to read.

COLOR GUARD

Color is probably the most complex element of any presentation, and yet it is the one that is often given the least amount of thought by beginners. Without going into too much detail, here is a list of things to consider when deciding on the use of color:

Readability — The clarity of your presentation must take precedence over the colors you might like to use. It is a fact that combinations of pure high-contrast color—such as pure blue on black or full red on blue—are hard to read. By all means, avoid such combinations. What works for video production works for presentation graphics. Simply avoid full-power colors—that is, colors with fully-saturated red, green, or blue elements (set all the way to 15 in DeluxePaint's palette).

Hierarchies — If elements of your presentation are related but vary in importance, use a palette that has combinations of colors in varying intensities. For example, in a 16-color palette, you might try using three

shades each of red, green, yellow, blue, and grey, in addition to a background color (probably black). This not only allows you to show order-of-importance relationships (you could use all three reds on one screen, for example, to imply hierarchy), but also allows for color builds within text lists (that is, the use of more intense colors for emphasis, as in the build described above).

Association — When you see red, what do you think of? Fire, danger, financial loss, elements of great importance? Sure, that's why stop signs and fire engines are red. Too often, beginning screen designers use colors without considering what they might mean to the viewer. If you were doing a presentation to teach kids about recycling, what colors would you use? Probably varying shades of green (associated with grass and trees), blues (associated with sky and water) and vellows (sunlight) for positive elements. You could add browns (burnt wood, buildings) or reds (danger) to emphasize any negative elements. Remember that people everywhere associate color with familiar thingsregardless of what you may want that color to portray.

Audience — Upscale audiences tend to like soft pastel colors; audiences of less sophistication react well to primary color elements; kids tend to like anything bright. When considering color, be sure to consider your audience.

Relationship and differentiation — Some color combinations make good design sense and others do not. Often, context makes all the difference in the world.

Certain colors are near each other on the color wheel (and are therefore called spectral neighbors). Blue and green, red and orange, yellow and green, for example, enhance one another well. These make good side-by-side combinations and imply relationship.

Because spectral neighbors do suggest sameness, you should avoid these color combinations when you want to differentiate elements within a presentation. Instead, use strongly contrasting colors (sometimes called triad colors), such as mid-tone red, yellow, and blue; or at least add opposite colors to elements of the objects. When you do use color opposites, however, try to distance them-that is, do not let them touch each other. If color opposites must touch, be sure they are not fully saturated. Full-intensity color opposites tend to visually "vibrate" when they are adjacent.

One of the trickiest color elements to use, but perhaps the most gratifying, is the multicolored background. The best advice that I can give here is to consider how the relationships of the colors in your background and foreground elements compare to the basics mentioned here. Don't feel limited by these guidelines—they have become standards only because they work effectively!

Mitch Wells is president of AFR International, a videographics production company. Write to him c/o AmigaWorld Editorial, 80 Elm St., Peterborough, NH 03458.

The Experts — We Speak AMIGA World's Largest Seller of Amiga Specific Chips The Speed Shop TURBO ACCELERATOR 8-UP BOARDS SPECIAL At Memory World HACK KIT ONLY \$40.00 **GVP 8/2** CSA PURCHASE 68000 16 mhz MegaMidget Racer For A2000 w/2 1 x 8 - 100ns 32K Buffer Chip meg-\$179.00 SIMMS 68030 25 mhz 5.75 Spirit in 1000 68030 33 mhz... .6.75 KX-P1092i. KX-P1524, KX-P1124 \$45.95 ea. 11/2 meg-\$229.00 All of the above KX-P1180, KX-P1191, KX-P1624 All Speeds Available with MMU KX-P1695 RAM & Math Chip Additional for Panasonic Printers for 128 x 8 Modules \$50.00 A3000 Memory Only \$20.00 w/instructions GVP Accelerators In Stock For MegaMidget Racer Memory Board 1 x 4 -80 \$34.95 ea. **GVP Accelerator Memory Cheap! HP Laser Board** \$34.95 ea. 1 meg-\$115.00 2 meg-\$165.00 Static Column Zips GVP A500 52 meg \$599.00 4 meg-\$248.00 Hard Drive All Laser Memory Available Exclusive at Memory World GVP MEMORY WORLD 215-244-7930 A2000 Memory Brd. Series II Impact Wholesale & Retail Street Rd. & Bristol Pike \$179.00 FAX 215-244-7932 Plaza II, Sulte 134 Add \$3.00 S/H Add \$4.00 COD APO / FPO, AK & HI, FOREIGN w-2 meg Bensalem, PA 19020 Visa / MC / Check / COD FAX or Call for Shipping Charges Attn: Amiga Dept.





The smallest hard drive and interface in the warld is naw available far yaur Amiga 500 camputer! This rugged little sweetheart maunts campletely inside yaur camputer allawing 20 megabytes af high speed starage that takes absalutely na desk space. The advanced features include autabooting fram FastFileSystem partitions, high



speed caching, auto-canfiguring, and A-Max II support. Navia 20ì cames with camplete instructions and all the hardware necessary far a simple, clean, no-salder installation. Available taday at Amiga dealers everywhere.

Navía is a trademark of ICD, Incarporated. Amiga is a registered trademark of Cammodare-Amiga, Inc. A-Max II is a trademark of ReadySoft.



ICD, Incorporated 1220 Rock Street Rockford, IL 61101 USA



U.S. ORDERS ONLY:

CANADA: 1-800-548-2512

CUSTOMER SERVICE OR 800-872-8882 213-214-0000

ORDER STATUS

4458 Redondo Beach Bivd., Lawndaie, CA 90260 - Mon-Sat 8-6 PST - FAX: 213-214-0932

Newtek Video Toaster



Digital Video Effects <u>Geniock - Frame Grabber</u> 24-bit Paint and Rendering 3D Modeling and Animation

Lowest Price in the World - Call



From Digital Creations

Full NTSC Color Display and Digitizer

> KOOOIII

DPS Personal TBC

A New Internal Infinite Window Time Base Corrector with Genlocking for use with the Newtek Video Toaster!

For the Amazing Low Price of:



4004/4005

Geniockable Video Graphics Encoder for the Amiga 2000/3000

4004S offers S-VHS standard External control box with fade and keying controls Now, half the original price

Available Exclusively at Creative Computers \$99500



Video Blender

This New Video Device does Genlocking Luma-Keving Fading & Mixing Custom Wipes **Custom Scripting Control Software** Keyed Picture in Picture

(1 MB memory required)

Novia 20i

The smallest hard drive and interface in the world is now available for your Amiga 500 computer! This rugged drive gives you 20 megabytes of storage that takes up absolutely no desk space. Advanced features include auto-booting from FastFileSystem partition, high speed caching, auto-configuring, and A-Wax II support. Novia 20i comes with complete instructions and all the hardware necessary for a simple, clean, no-solder installation.

Works on the A500 and CDTV!!!



IVS Trumpcard Professional

Fastest SCSI controller available for the Amiga! Special limited time only \$19900

BCD 5000 - Single frame controller Future Video - Edit Controller Panasonic AG-1950 - Video Recorder Oeck Ali Available - Just give us a call!

Hard Drive Specials

OBILLI OHO! D
GVP Series II - Non Ram Cap \$15900
GVP Series II · Up to 8 megs \$19900
ICD AdSCSI 2000812900
ICD AdSCSI 2080819900
IVS TrumpCard 2000 Prof \$19900
IVS TrumpCard 500 Prof \$25900
Supra WordSync\$10900
Datallyer 200088900
Datallyer 500817900

Super Special of the Month

Hard Orive Packages: Buy any controller and any drive from the selection listed below and we will take \$20 off the package price.

Rono Dnissos

two o mi ingo	
Quantum 52mb LPS	8288 ⁰⁰
Quantum 105	\$398 ⁰⁰
Quantum 105 LPS	
Quantum 170	8699 ⁰⁰
Ouantum 210	

The Creative Computers Low Price Guarantee

Creative Computers, the service and low-price leader, has just reduced all of its prices even further.

Check out the orices in this ad, then compare them to the competition's, If you find a lower price anywhere, we'll beat it!**

ACCELERATORS

MEGA MIDGET RACEI 25mMz 838.00 Mega midget racer 30mmz 738.00 AUDIO HARDWARE AMAX MIDE SAMP JA 1000 128.00
AMAX MIDE SAMPLER 128.05
CM MIDE 1 (EXT) 56.95
ECK MIDE 1 (EXT) 49.05
ECK MIDE 1 (EXT) 49.05
ECK MIDE 1 (EXT) 49.05
MIDE GOLD 500 54.95

COMMODORE A10 STEREO SPEAKERS

FLOPPY DRIVES

NOCTEC 5.25" FLOPPY _______ 158 00 NOCTEC SUM EXT. 2.6" ______ 54.85 CONTROLERS TAGE 2000 SCSI

MEMORY EXPANSION

SC HARDWARE

MONITORS

VIDEO HARDWARE

OLON SPUTTER	118 00
ORGIN RPLICTER	. 85.60
IE VIEW GOLD V4.8	129.00
GIVEW GOLD 4.0 PAL	154.00
ASYL 1000 FARLET	
ASYL 2000 YARLET	289.00
ASYL 500 1AULEY	328.00
LICK, FIX TO DEMLOCK	. 37.95
INCREA FREE	279.00
DICKER FORER PAL	200.00
RAMEGRABISEK	449.00
RAMEBRADBER PAL VERS	658.00
RAMEDRASBER 758 DIAY	628.00
RAMEGRABBET/7586 PAL	
ENS 15MM NO MES	. 18.95

NEW HARDWARE

DOUBLE TALK A2009 ,
N'S GRAND SLAM
OWNER'S PLUS
OWNER'S ULTRA
AUTOLINK
RIGEDOT 150 POWER I DELDRI MADE MAND SCAMMET 288.00
PROFESSIONAL SCAMARE 222.00
PROFESSIONAL SCAMARE 282.00
BURGET ASSETCH MASTER 282.00
STAR METODO RAMBOTO 21.80
STAR METODO RAMBOTO 21.80
BURGET ASSETCH SCAMARE 222.00
STAR METODO RAMBOTO 21.80
BURGET 3.80
BURGET 3.80
SERVICE SCAMARE 282.00
BURGET 3.80
SERVICE SCAM

ACCESSORIES

DUST COVERS COVER UPS A2000 STSTM COVER UPS A2000 SPU COVER UPS A3000 SPU COVER UPS A3000 A1550 COVER UPS A500 CPS BESKLET DUST COVER

INPUT DEVICES

PREEDOM CONNECTION .

MICE RED BALL JSTIC

PRINTER ACCESSORIES DATA SWITCH Z-WAY.

GVP Series II Accelerators

New single-board design on 22 & 33 Mhz These new Series II accelerators have a built-in GVP SCSI controller Now holds up to 32 megs of ram!*



22Mhz \$93900 33Mhz ... 8169900

*50 Mhz board, others hold less

50Mhz ... \$239900

Great Valley Products Series II Hard cards for the A2000

Series II	No Drive		1590
Series II	1050		*558°°
These ar	e non RAM-capable	, for RAM-capable ad	级 500

Great Valley Products Series II for the Amiga 500

	40mb ^{\$} 5	9900
COSTA LAREA	52mb	
	105mb	



New, reliable drive for the Amiga Super slim, less than 1-inch high Low power consumption **89**495 Orive pass-thru

New From



AdSpeed. \$21800

AdiDE \$9900

Flicker Free Video ... Eliminates interface

flicker for may Amign tomputer, Deas not use video elet. Now lower 🕏 prices!!!

New, lower priced Mega-Midget Racers!



25 Mhz8499⁶⁰ 33 Mhz859960 Ram Board with 2mb . \$40900 Ram 8oard with 4mb . \$77900 68882 - 25 Mhz \$27900

Thesa Economy boarda do not have an MMU

Supra Corporation
Supraken 2000 4mh NAM ... 205.00
Supraken 2000 5mh SAM ... 200.00
Supraken 2000 8mh SAM ... 470.00
Supraken 500 612k ... 61.95
Ges to biderry likestine, RAM price are solded to cleane without setter.

Supra 500XP Drives

20mb with 512k \$44900 52mb with 2 meg \$69900 185mb with 2 meg ... \$99900



Sharp JX-100 A portable color scanner.

200 dpl / 24bit color. Includes Scanlab software Irom ASDG8699°C



HP Printers

BezkJet 588 499.88 949.00 Paint Jet

Supra Ram 500 RX



1Mb exp. to 8Mb \$13500 2Mb exp. to 8Mb \$20500

Other configurations, please call

Supra Modems

Sugra 2480i listor	mail
	\$88°
	11706





U.S. ORDERS ONLY: 800-872-8882

CANADA: 1-800-548-2512

CUSTOMER SERVICE OR 213-214-0000

ORDER STATUS

MISC. MITSIC

HARS AND PIPES SOUNDS DELINE MUSIC CHEET SET

DELLICE MUSIC CREST IS DR. 1"S COPYRET APPR DR. 1"S COPYRET DTP DR. 1"S KCR/COPYRET DR. 1"S MIDI REE. STD

M INTELLIGENT MUSIC MASTER THACKS PRO POXOUNG

SOUNDTRAX VOL 1

TRAX MICH STUDIO ...

4453 Radondo Baach Bivd., Lawndale, CA 90260 - Mon-Sat B-6 PST - FAX: 213-214-0932

34.95

51.95

___ 14.95 ___ 14.95 ___ 78.95 __ 239.90

58.85

58.95

GRAPHIC SOFTWARE

HOT GRAPHICS AND VIDEO SOFTWARE

38 TEXT ANIMATOR	28.
ANIMAGIC	87.
DIGIMATE III	
DISPLEY AMINATION	99.5
MOVIE SETTER	_ CA
PAGE PLIPPER PLUS F/X	
PHETON CELL ANIMATOR	87.5
SCHLPT ANIMATE 4-6	
SCULPT ANIMATE 4-0 JR	
TURRO SILVER 3.0	88,1

CLID ADT

CUF ANI
ARCRAFT PICS31.95
ARSHP\$/2011 SCULPT 23.95
ARSHP8/2011 TSILVER 23.95
ART GALLERY FANTASY 23.95
CLIP ART #1-8 (EACH)12.95
DELIXE MAPS18.95
DES DISM, AACHTEC BOP 22.95
DEB DISK, ARCHTEC TSL 22.95
DEE DISK, ARCHTEC VSP 22.85
DES DISK, PUTURE SCP22.85
DES DISK, FUTURE TSL 22.95
DES DISK, PUTURE VSP22.95
DES DISK, HUMAN SCP22.95
DES DISK, HUMAN TSL 22.95
DES DISK, HUMAN YSP22.95
DES DISK, INTER. SCP 22.95
DES DISSE INTER. TSS

DES DISK, INTER. VSP	22,96
DES DISK, MICROS SCP	
DES DISK, MICROS TSL	72.95
BES DISK, MICROB VSP	
DES DISK, NY CITY SCP	
BES BISK, NY CITY TSE	75.95
DES DISK, NY CITY YSP	
BES DISK, SPACE SCP	
DES DISK, APACE TEL	
BES DISK, SPACE VSP	
DINOSAUR DESIGN SCULP	
DINOSAUT DESIGN TSILY	75.95
DINOSAUR DESIGN YSF	
ECLIPS PROFESSIONAL	
FONTS AND BORDERS	79.95
FREDS BUTTEPFLIES 1	
FREDS FLOWERS DISK 1	
PROTON PAINT EXP. DSX	
PRO FELS	
PROCLES	
PROF, PAGE STRUCTURED	38.95
STARSHIPS 2050 SCHIPT	
STARSHIPS 2050 TSILY	
SUPER CLIPS 1	
SUPER CLIPS 2	
SUPER CLIPS 3	

	FORTS AND BORDERS			
	FREES BUTTEPFLIES 1	31.95		
	FREDS FLOWERS DISK 1	31.95	Š	
	PHOTON PAINT EXP. DSX	19.95		
	PRO FRES	17.95		
	PROCLES			
	PROF. PAGE STRUCTURED			
	STARSHIPS 2050 SCHLPT	29.55	5	
	STARSHIPS 2050 TSILY	28.95		
	SUPER CLIPS 1	18.8	5	
	SUPER CLIPS 2	18.95		
	SUPER CLIPS 8	18.83		
FONTS				
	BROADCAST SO FONTS	34.95		
	FANCY 3D FONTS	48.85		
	FANCY 3D FONTS SILVER	46.95		
	INTERFORTS	68.9		
	MARIA SAMERONCO S			

KARA ANIMEDITS 3 KARA STARFELDS

KARA FONTS HEADLINES

KARA FONTS HEADLINES2	39.85
KARA FONTS SUBSEADS	39.95
MAP PICS - WORLD	37.95
MUNITERPIECE FONTS	56.95
PASESTHEAM FORTS # 1-18(EA)	25.85
PIC-MASIC PACKAGE ONE	58.95
PRO FONTS YOL!	22.95
PRO FONTS VOL 8	
PROF, FONT LIERARY	
PROF. PAGE OUTLINE CS	
PROF. PAGE TEMPLATES	
ZUMA FONTS 1-4 PACK	
ZUMA FONTS YOU 5	
ZUMA FONTS VOL. 1	
ZUMA FONTS VOL. 2	
ZUMA FONTS YOU 3	
ZUMA FONTS YOU 4	
RENOERING/NEV	¥

ZUMA FURITO POL 4	
RENOERING/NEW	
GRAPHICS PROGRAMS	
3 D PROFESSIONAL	
B B PROFESSIONAL PAL 189.00	
AET DEPARTMENT PROF 135.00	
SROADCAST TITLER II	
BROADCAST TITLER PAL 235.00	
8000Y \$Y8/0PAINT III	
CALICARI CONSUMER	
COMIC SETTER	
DELUXE PAINT IN	
9KI PAINT 3	
SICIPARYT 3 PAL 58.85	
DICITAL LANDSCAPE	
GOLD DOOK DECORATOR FONT 34.95	
GOLD DISK DESIGNER FONT 34.95	
GOLD DISK PUBLISHER FONT \$4.95	

22	PISTA PHUI CISSURIAL	. B1.3
	VISTA SCAPES CALLE N1	48.95
	WISTA SCAPES MARS	48.95
8	WE'LA SHAND CANYON 1	
10	VISTA SHAND CANYON 2	48.55
10	WISTA WESTERN U.S.	
10	VISTA WYOMING 1	
10	S SAMMETAN VISAR	
00	MISC, GRAPHIC	8
Ki	ACAD TRANSLAYOR	139.95
00	ART DEPARTMENT	
Щ	AUTOSCRIPT	91 96
55	BORAPHICS	114.00
35	BUTCHER 2.0	
55		
55	CRLPRO	
35	CREDIT TEXT SCROLLER	
6	DELUXE YIDEO III	
35	DIGENERALS SD	
š	DOUG'S MATH AQUARSUM	
~	DOUGS COLOR COMMANDER	. 19.9
-		

MODELER SO

SCULFT 30XI SPECTRACOLOR ...
TY GRAPHICS 2 ...
WORDTITLER 30 ...
WISTA

WISTA PAL ____

PASE BENDER 20

23.85	FRACTAL PRO 50.85
124.00	FRAMEGRABBER VZ SFTWR 58.95
185.00	MARE LINK
. 81.55	INTERCHANGE20.95
178.00	INTERCHANCE TRLY MODE 18.85
B4.95	ENVISION PLUS
. 83.95	MAP PICS: US34.95
. 89.55	PERFORMER (BLAN)
40.85	PHOTON TRANSPORT CONT 195.95
189.00	PHOTON YIDEO EDLP298.00
109.00	PDDB. SD AUTOTRACING 52.95
B4.95	
28.95	PRO YIDEO PLUS PAL189.85
, 89.85	PRO YIDEO POST
58.95	
. 58.95	PRO/MOTION 58.95
87.95	NEXEP 51.95
48.95	ROLL YEM TELEPROMPTER 87.85
	SCHE DEVERATOR29.96
	TERRAIN FOR TURBOSILY 14.95
48.85	TITLE PAGE

	SCIENE GENERATOR
	TERRAIN FOR TURBOSILT
5	TITLE PAGE
	TV GRAPHICS
5	TYSHUW
i	TYTEXT PROFESSIONAL
	YIDEO EFFECTS 3D
	VIDEO ETTECTS 3D PAL
i	YIDEO PAGE
,	VIDEO TOOLS
	YUGEN 1.0
1	ORAWING
,	
	DECROSULDERS CAD
	DRAW 40
	FLO FLOORPLAN CHISTRE
	HOMEBUILDERS SCULPT

DRAWING/CAD	
DECROPULDERS CAD	58.
DRAW 40	
FLO FLOORPLAN CHSTRCT	28
HOMEBUILDERS SCILPT	
HOMEBUILDERS_CHOICE	
HOMESUNLDERS_LIH_1	28

HOMERNLDERS_PRINT72.85
NTR9CA2 48.95
INTROCAD PLUS
PROFESSIONAL DRAW 128.00
ULTRA DESIGN 198.00
XCAB DESIGNER88.91
XCAB DESIGNER PAL
XCAD PROFESSIONAL
XCAD PROFESSIONAL PAL CALL
XSMF1124.90
sallovo poemiliane

MOSIC SOLLAWITE	
MUSIC EDITOR/	
LIBRARIAN	
BARS AND PIPES	138.00
BARE AND PIPES PROF	
BARS AND PIPES RULES	35.86
C-ZAR	58.95
DR. TS 4-DP ED/LIB	87.85
DR. T'S CZ CARTRIDGE	
DR. 1'S D-50 FD/LIB	
DR. T'S I-110 EDALE	
DR. T'S DAY HEALE	
DR. T'S E-MU PROTEUR	90.95
DR. T'S EXQ-APADE 1	87.95
DR. T'S KAWALK 1	
DR. TS KAWAI 8-5	
DR. TS KCS 3.0	
DR. T'S KCS LEVEL II	
DR. T'S LEOCON	
DR. T'S M-1 EB/LID	
DR. T'S MATRIX-8	
DR. T'S MT-32 ED/LIE	
SMINNS W	90.06

SOUND DUEST IMIDIOUEST _____ 148.95

AUDIONALITER III
AUDITION
PRANTOM INICH INTERFCE 189.0
UTILITY SOFTWAR
MISC. UTILITIES
AMI ALIGNMENT SYSTEM 29.8
AMOS THE CREATOR
R & D. DISK ORTHWEFER 29 F

SAMPLER/EDITOR

SULLMARK

COPYWRITE	CALL
CROSS DOS	25.95
DOSK HUNAGEN MAC	78.95
DOSK MECHANIC, THE	52.55
DUSK TO DUSK	29.95
DISKMASTER	29.95
DOCTOR AMI	29.35
DOS TO DOS	
DUNLAP UTILITIES	49,85
DIPRESS COPY	27.95
FACC II	21.95
HYPER HELPERS	35.85
MAC 2 DOS	
SCAVINERY	
VOREC ONE	
W \$HELL	91.85
BACKUP SOFT	WARE
RASHBACK	45.95
PROJECT D	
DUARTERSACK	
RAW COPY 1.3	
THE WATER COLUMN TO A COLUMN TO	





\$19900

Professional Page 2.0

The Ultimate in Desktop Publishing

Easy to Use Free DTP video Prints 24-bit images **Built-in text editor & dictionary** Rotate text and graphics 2 page display

ProWrite

. 87.85 __ 87.85 ___ 29.95 __ 14.95 __ 117.00 __ 29.85

_____28.95 ____98.95 ____119.00 ____129.85 _____93.95 _____178.00



New Horizon's new word processor takes on all challengers with features like these:

100,000 word Spelling Checker. Thesaurus with 300,000 word cross reference idjustable defaults for ALL program settings. Viuitiple fonts, sizes and styles. mports HAM or NT Images Wrap text around pictures

Bars & Pines Professional



3900

Bars & Pipes Professional will open your eyes to a new vision of music softwars. Its expandable design and innovative architecture increase the creativity and productivity of the modern composer

Pelican Press



The light-hearted publishing program for the whole family



Where in Time is Carmen



Wolf Pack



SAS/Lattice C 5.1 The standard complete C programming language for the Amiga\$199®





	Digi View Guid 4.0	94.00
No. of Lot, Lot, Lot, Lot, Lot, Lot, Lot, Lot,	Sign Palmi 9	100.0G
	Panestolic WV1410 1	
1	Copy/Consert Stand	
	(Digit View Void 4.9, WV1415 Core	
	Copy Statel, Leite, Cable)	



Chessmaster 2100

You can visit our showrooms full of the newest products with friendly, helpful salespeople to show them to you at the following locations:

South Bay: 4453 Redondo Beach Blvd. - Lawndale, CA 90260 - Mon-Sat 11-7 PST -Phone: (213) 542-2292 Westside: 318 Wilshire Blvd. - Santa Monica. CA 90401 - Tues-Sat 11-7 Sun 11-5 PST-Phone: (213) 394-7779

PROGRAMMING		
AC BASIC	125.85	
AC FORTRAN 77	399.00	
AC FORTRAN	. 195.00	
ADAPT 680 X 0	85.95	
AMICA LOSS	58.95	
AMIGA VISION	95 00	
AREXX	28.95	
AZTEC C COMPILER	_ 185.00	
AZTEC C PROFESSIONAL		
BENCHMARK C LIBRARY		
BENCHMARK IFF LIBRARY	62.95	
BENCHMARK MODULA-2		
BENCHMARK SIMPLE LIBR	58.95	
BENCHMURK SOURCE LVL		
CAPE BOX ASSEM 2.5		
DEVPAC AMIGA ASSEMBLE	34.95	
HISOFT BASIC PROFESSN		
INOVATORIS!	51.95	
JEORTH PROFESSIONAL		
LATTICE C SAS/C		
LATRICE C++		
OTIC DRIM -DISASSEMBLER		
POWER WINDOWS 2.5		

WIRKESTALL 13 NEW PROGRAMMING/

UTALITIES	
BYTE W BACK BACKUP4	1.8
CANDO PROPAK 12	3.8
CINELINK FOR IMAGLINK 17	5,0
DISK LASELER2	2.9
PELCAN PRESS	CALL
QUARTERBACK TBOLS 5	2.9
STERLING SERVICE USS 9	M OF

PROOUCTIVITY

SOFTWARE	
ACCOUNTING	
OUNTANT, THE	188.95
F BUSINESS MGMT	. 192.00
ATAX	49.95
KTOP BUDGET	48.95
LEDGERS	, 182.00
SAK 4.0	58.85
SOC SURVEYTING AND	

BABY/WRITER'S TOOL	
CYGNUSED PSOF. REL. 2	
EXCELLENCE VERSION 2	105.00
FLOW	. 57.85
OFFICE GOLD DISK	169.00
PALE SETTER 8	
PEN PAL	. 83.95
QUICKWRITE	. 44.85
SCRIBBLE PLATINUM	. 97.95
TRANSWRITE	40.85
WORD PERFECT	159.00
DESKTOP PUBLISH	HING

PROFESSIONAL PAGE 2.0	
MISC. PRODUCTIV	ЛТҮ
ALL IN ONE	54.95
AWARD MAKER - BOUC	. 17.85
AWARD MAKER - SPORTS	. 19.55
AWARD MAKER PLUS	. 32.48

RIL PLOTE	
AWARD MAKER - EDUC	17.95
AWARD MAKER - SPORTS	19.95
AWARD MAKER PLUS	
CANDO	88.95
CANDO PAL VERSION	96.95
DRUXE PRINT I	54.95
ELECTRIC THESAURUS	29.95
EZ GRADE	95.95
HOME FRONT	
MATHVISION	118.00
MICROLAWYER	37.95
NAS PLUS 3.1	
PAGESTREAM FORMS	28.95
PRINTMASTER PLISS	25.35
PROFFFSIONAL LISTERY	23.85
TOP FORM	52.85
WHO WHAT WHERE WHEN	
WORD PERFECT LIBRARY	
	00.05

HOUR LEALTH INDUAL! ******* 10:05
WORKS PLATINUM 99.95
SPREADSHEETS
ADVANTACE SPREADSHEET 119.00
ANALYZE 2.0
MAXIPLAN PLIE
SUPERPLAN 97.95
TEMPLICITY ANALYTE 20.85
TEMPLICITY MAXIPLAY
TEMPLICITY SUPERPLAN 21.95
TEMPLICITY VIP PROF 20.95
VIF PROFESSIONAL

CIRCUIT DESIGN PACKASE ____ 289.00 ATIONAL

32.55	PRO DEARBANET PACKASE 289.00
DUCTIVITY 54.95	EDUCATIONAL
UC 17.95	SOFTWARE
9RTS 19.95 S 32.49	PRESCHOOL
88.95	BANNEY BEAR 20.95
96.95	BARNEY BEAR GOES FARM 20.95
54.95	BARNEY BEAR MEETS SANTA 20.95
\$ 29.95	BARNEY BEAR TO SPACE 20.95
95.95	CHICKEN LITTLE
84.95	DESIGNAS AURUS29.95
118.00	DAVESAUR DISCOVERY KT 27.85
	DISCOVERY DEOCRAPHY 11.48
48.95	DISCOVERY HISTORY 11.40
28.95	DISCOVERY LANG. 1 11,49
	DISCOVERY MATH 1 11.49

2.85	DISCOVERY SCIENCE 11.49
T.\$5	DISCOVERY SOCIAL STDY 11.48
8.85	DISCOVERY SPELLING 1
9.95	DISCOVERY SPELLING 2
	DISCOVERY TRIVIA 1 11.45
	DISCOVERY TRIVIA 2 11.49
9.00	DISCOVERY W/MATH 23.95
9.85	
	DISCOVERY W/SPELLING 23.95
9.85	KATES FARM 25.95
7.95	
1.95	KNOERAMA29.95
	LETYERS FOR YOU 13.95
1.95	
1.95	MATCH IT
	MATH BLASTER PLUS
0.95	
	MATH BOCTOR23.\$5

MCSEE	25.8
MOTHER GOOSE	19.3
MY PAINT 2.0	
MY PAINT DATA DISK #1	19.9
MY PAINT DATA DISK #2	19.5
MUMBERS COUNT	19.9
NURSERY ISHYMES STORY	18.35
OPPOSITES ATTRACT	13.95
SPELAFAN	23.85
SPELLBOUNE	25.95
UNCLE DICOMSNOTRATION	18.95
UNITE ITS DATA DISK 1	19.05

GRAMMAR SCHOOL/ ADMIT ALGEBRA PLUS VOLUME I ALGEBRA PLUS VOLUMEII ARTHMETIC BIBLEREADER STUDY CALCULUS PROSESMUSO CREATOR JAPANESE 25.95 LINKWORD DUTCH .. LINKWORD FRENCH LINKWORD GERMAN 18.95 LINKWORD ITALIAN LINGWORD BUSSIN 10.00

MAVIS BEACON TYPING

ARCADE GAMES	8
ARCADE ACTION PACK	12.8
ARKANOD	.10.0
BATMAN THE MOVE	28.9
BATTLE SQUADRON	14.8
BESOD MONEY	25,9
BRAINGLASTER ACTION	. 27.9
BURBLE SOBBLE	13.9
DOURSE DRAGON II	25.8
DRAGON'S LAIR	34.8
DRAGONS LAIR IVSINGE'S CASTL	E34.3
DUCKTALES QUEST/600 G	27.8
FUTURE CLASSICS COLEN	
COLDEN AXE	22.8
HEROS QUEST	38.9
LEMMINGS	38.9
MARKE MADNESS	
NY WARRIORS	
081138	34.9
PIONETA PLAGUE	10.0
PLAGUE	
SHADOW OF THE BEAST	
SHADOW OF THE BEAST II	
SHOOT YEM UP CONSTRUC	
SPACE ACE	
SPEEDBALL	32.9
TEENAGE MILITANT NINJAS	
TUNNELS OF ARMAGEDOON	27.8

PRE CALCULUS .

MOST D STILL D MICHAEL

GAME SOFTWARE

ACTION/STRATEGY

BANDET KINGS OF CHINA	
BAR GAMES	28.95
BATHAN	28.95
BLOCKOUT	27.95
BUDOKAN	27.95
CHAMBER OF SCIMUTANT	31.95
OARK CENTURY	29.95
EUTF	29.95
EMPIRE	34.95
FEMINE TATALE	20.95
FEMINE TATALE DATA 2	T3.95
FEMINE HATALE DATA 3	13.95
FEMINE FATALE DATA 4	13.95
FEMINE FATALE DATA 5	13.85
KARPOON BATTLESET # 2	
IT CAME FROM DESERT 2	
IT CAME FROM DESERT	34,95
JOAN OF ARC	25.95
LEISURE SULT LAAR III	
LEGURE SUIT LARRY	
LESURE SULT LARRY II	
LORDS OF THE RSING SUN	33.95
LOST PATROL	34,95
MANHUNTER 2 SAN ERAN	32.49
MARKE MANSION	30.85
MEAN STREETS	
MIDWINTER	31.95
NORTH AND SOUTH	20.95
PERSUAN GULF INFERNO	14.85
POPULOUS	34.95
POWER PINEALL	23.95
ROCKET HWGR/1 STDOGES	
ROMANCE OF 3 KINGDOMS	44,95
SILENT SERVICE	18.55

SIMCITY TERRAIN EDITR	13.5
STAR CONTROL	32.4
SWORD OF ARUSSIN	34.8
FETROS	19.9
WELLTRIS	24.9
WHERE IN EUROPE CARRIN	32.4
WHERE IN THE U.S.A	32.4
WHERE IN THE WORLD	
WILD STREETS	23.9

CD TITLES

ALL DOGS DO TO HEAVEN	32.95
BARNEY BEAR SOES TO SCHOOL	29.85
CASE OF THE COMPOR	32.95
CLASSIC BOARD GAMES	32.95
CLICUT OWNER ATT	OSI

ALL DOGS DO TO HEAVEN	32.9
BARNEY BEAR SOES TO SCHOOL	29.8
CASE OF THE COMBOR	32.9
CLASSIC BOARD GAMES	32.9
CHOUT DOWN AT	041
FLIGHT SIMULATI	
A-10 TANK KILLER	
BATTLE HAWKS	34.9
F-16 COMBAT PILOT	. 13.9
F-18 STEALTH FIGHTER	
F29 RETALLATOR	
FALCON	. 32.85
TALCON MISSION DISK	15.8
FIGHTER ROWBER	37.85
FIGHTER BOMBER MISSN	18.8
FLIGHT SIMULATOR II	. 32.4
STINISHID	35.8
HAWADAN OOYSSEY	
INTERCEPTOR	
POWENDROME	
SCENERY DISK # 8	19.9
SCENERY DISK #7	19.9
SCENERY DISK #11	19.33
SCHWERY DISK STARTER	37.8
SCHNERY DISK W.EUROPE	19.8
SCHNERY DISK, JAPAN	13.3
	_

SuperBase Professional

PAGESTREAM 2.1

Form Design, Application **Development and Relational Database Management Software** from Precision Software



XCAD **Professional**

Full-featured, professional 2-D design and drafting tool suitable for engineers, draftsmen, and designers



\$18900

Vista Professional

Requires 3 megs



Distant Suns

Control the Universe with this Amiga Classic



SCALA

The Powerful Business Presentation Package for the Amiga



SPECTRACOLO

4096 Color animation program



Ergonomic Trackhall

\$**6**495



lista 1.



Audition

Advanced digital sound editing More leatures than AudioNias 100% Assembly language \$ \$R/195



MaxiPlan *plus* **\$69**95

This advanced, flexible spreedshi leatures include Macros, Msil in capability, 512 x 65,530 cells, Lotus





U.S. ORDERS ONLY:

800-872-8882

CUSTOMER SERVICE OR 213-214-0000

CANADA: 1-800-548-2512

ORDER STATUS

..... 14.95 18.95 15.95

.... 8.95 ... 12.95 8.49 ... 12.95

10.85

4458 Redondo Beach Blvd., Lawndale, CA B0260 - Mon-Sat B-6 PST - FAX: 213-214-0932

TTRIKE ACES82.48	RIT
THEIR FINEST HOUR	Kri
VINGS 34.85	KF
GRAPHIC ADVENTURES	KIN
	KB
DOE HAME ICHNIN	Kin
COLDINELS BEQUEST 38.85	Mil
EDERATION	ME
EART OF THE URASON	DBI
NFTSTATION	PIR
GRISTAL	PO
HAIN HUNTER - NEW YORK 32.48	
	2T)
POLICE QUEST 21.95	UET
PACE QUEST	UE)
SPACE QUEST II	
PACE QUEST III	
OWORDS OF TWILIGHT	CAL
WEIRG DREAMS25.95	CYT
The present minimum conce	

ROLE-PLAYING

RULE-PLAYING	EANL WEAVER COMM
B.A.1	FAM WEAVER STATE
BARD'S TALE 13.95	BIROPEAN CHALLEN
BARD'S TALE HINT DISK 19.85	SPETZKY HOCKEY
BARD'S TALE 8 19.95	SEIDIRON W/TEAM O
BL000WYCH HINT DISK 12.95	HARD DRIVIN
CHUMPIONE OF ICRYNIN	HAROBALL S
CHADE STRIKES BACK28.95	SAMOBALL SIDATA DI
CHAOS BACK HINTOISK	HARLEY DAVIDSON B
CONQUESTS OF CAMELDY 38.95	HOCKEY LEAGUE WHA
CURSE OF AZURE CLUEZ	HOLE W ONE
ORAIOCHEN	HOLE WIDNE COURSE
DUNGSON MASTER20.85	JACK MICKLARS CLS
DUNGEON MASTER ASSI 1 19.95	JAZK HICKLAUS COU
DUNGEON MASTER ASST 2 18.95	JACK NICKLAUS COU
DUNISEON MASTER EDITOR 18.35	JACK NICKLAUS COU
DUNGEON MSTR HINTOISK 11.85	JACK NICKLAUS UNL
FAERYTALE ADVENTURE29.05	JACK NICKLAUS GOL

32,49
31,35
31.55
12.95
31,35
38.85
40.85
28.95
34.95
29.95
34.95
34.85
37.95
17.95

HOPMA CHALLE

uro	
WE	14.85
-	25.85
BALL	
ALDISK	13.95
8 WS1	
EE	
)KSK	
AND 111111	
	92.49
esx	
10A0	
I	
E 1/3	
£1	12.85
R\$E	14.95
JRSE2	14.95
JRSE3	
LIMIT	
F	

MEAN 16 CLSC COURSE 1 12.95
MEAN 16 CLSC COURSE 2 12.95
MEAN 18 CLSC COURSE 3 12.95
MEAN 18 COURSE DISK 2 14.95
MUSCLE CARS
PROF. FOOTBALL SIM 22.95
STREET 800 15.00
SUPER CARS14.95
TENNIS CUP25.95
TESTDRIVE II
TV SPORTS BASICETBALL 34.95
TY SPORTS FOOTBALL
TV SPORTS FOOTBALL 90 DATA 8.95

STRATEGY

BATTLE CHESS \$1.95
SLACK GOLD25.95
BLACK JACK ACADEMY 14.85
BLITZY(RIEG (1 MEE VR) 38.95
BRIDGE G.O 25.95
CENTERFOLD SQUARES 19.95
CHESSMASTER 2100 34.95
DLUE MASTER DETECTIVE
CRAPS ACADEMY14.95
CRIBBACE KING GIN KING 27.85
GENGHS KHAN \$8.85
DETTYSBURG FUEN POINT 40.95
HOYLE BOOK OF SAMES 2 22.85
HOYLE BOOK OF GAMES 22.95
IMPERIUM27.95
NEICEEAN WAR
OVERLORO
EVERTUN 40.85
RED LIGHTNING
RED STORM RISSING
RISK 25.95

SINCITY	32.48
SOLITAIRE ROYAL	18.85
STORM ACROSS EUROPE	40.85
TRIP POKER II	25.95
TRUMP GARTLE	25.95
TYPHOON OF STEEL	38.95
VEGAS GAMBLER	25.95
VIDEO VEGAS	22.95
WATERLOO	28.95

NEW GAMES

ANLAGE PEREN	
AWERDME	
BACK TO THE PUTURE II	
BUCK POSERS DOOMSOAY	
CADAVER	32.49
CAPTIVE	32.55
CARTHAGE	25.85
CENTURION	34.85
CHECKHAITE	35.85
CURSE OF AZURE BONDS	34.85
DAS 8001	34.85
DINOWARS	23.95
DRAGON WARS	
DRAGONLORD	34.85
DRAGONS LAIR/TIMEWARP	
DRAGONSTRIKE	34.55
ELVIPA	38.95
EYE OF THE BEHOLDEN	
FACES/TETRIS III	24.95
FALCON MISSION DISK 2	17.55
PEMME FATALE DATA 1	13.95
FULL METAL PLANET	32.45
HARPOON	
	-

... 34.95

NDIANAPOLIS 500	34.5
ISHD0	25.5
XILLING GAME SHOW	26.5
LAND SEA AND AIR	34.5
L90M	41.5
M1 TANK PLATGON	38.5
MOHOPOLY	22.5
MONTY PYTHON'S CIRCUS	
MURDER	
MGHTBBEED	

L90M 41.2	
M1 TANK PLATOON 38.5	
MONOPOLY 22.5	95
MONTY PYTHON'S CIRCUS 32.	48
MURDER	55
MIGHTBREED	35
MTTRO 28.	35
NOBUNAÇA'S AMBITION	85
PEA SOLF	55
PICK TV PILE	35
POLICE QUEST 2	85
POWERMONGER38	K.
PRINCE OF PERSIA	35
PRO TENNIS TOUR	35
SEARCH FOR THE KING 38.	95
SMI OR DE	95
SPOT - THE TUP GAME	
THIAL BY FIRE	95
TURRICAN II	95
UETIMA Y 38.	95
UNIVERSAL MILITARY SIM II 34.	95
UNTOUCHUBLES	95

UNTROCHABLES 27.95 VAXINE 25.96 VINTACE AIRCFT 1 80P3 25.96 VINTACE AIRCFT 1 TSIL 25.96 WOLF PACK WRATH OF THE DEMON

AMIGA BOOKS GBB ATTK SUE SURVIVAL ... GBDDD ASSEMBLY LANG ADV, SYB, PROE. DISN

ADVANCED SYS PROG SEE 25.95
AMIGA 30 GRAPHIC DISK 10.95
AMIGA 30 GRAPHICS 15.85
AMIGA BASIC IRO DISK 11.95
AMIGA BASIC IN B OUT 18.85
AMIGA C ADV PROG DISK 10.95
AMIGA C RESINNERS DSK
AMIGA C FOR ADV PROG 28.95
AMIGA C FOR BEGINNERS 18.95
AMIGA COMPANION 24B 18.95
AMISA D.DRV INS.J. BSK
AMIGA DESKTOP YID GOE 18.85
AMICA DISK DRIVES IND 24.85
AMIGA DISK DRY IN DSK
AMBGA DOS IN BOUT DSK 11.85
AMBCA DOS INSIDE &OUT 18.85
AMBGA DOS QUICK REF
AMBGA DOS REF. GUIDE 17.85
AMIGA FOR BEGINNERS
AANGA GRAPHICS DISK 12.85
AMICA GRAPHICS INSULT 29.85
AMICA CHAPPINGS REF CAR 1.95
AMIGA MACH LANG DISK
AMBEA MACHINE LANG 18.95
AMIGA PRINTERS INBOUT 28.85

JACK MICKLARE GUIDERK
KEEF THE THIEF CLUEBY9.
KINGS OUEST III HINTE 12.
LEISURE LANKY STORY 12.
LEISURE SUIT HINTBUSK
MAKING MUSIC ON MMIGA 27.
MANIAC MANSION HINTEK
MAPPING THE AMIGA
MIGHT AND MAGIC CLIES 9.
MORE TRICKS & TIPS
MORE TRICKS ATIPS BSK 11.
PROGMIMERS GUIDE AMIGA 21.
DUEST FOR CLUES II 21.
SPACE QUEST ISA HINT
SPACE QUEST III HINT
STARFLIGHT CLUE BOOK9.
THEN AND RHEN 18

COMPUTES 2ND BX AMIGA COMPUTES AMIG APPLIC COMPUTES AMIGA APPLIC COMPUTES BESINNER SD ... DESKTOP VIDEO GRAPH 1 ... DESKTOP VIDEO GRAPH 2 ... DESKTOP VIDEO GRAPH 3 ... DESKTOP VIDEO WAS PART 3 ...

DERKTOP VIDEO VOL DIVE DRAGONS OF FLAME CLEX DRACKIEN HINT BOOK
DUNCEON MASTER MAPS +
DUNCEON MISTER MAPS +
DUNCEON MISTER AND BOOK
FIG STEAL CH HANDBOOK
FACELYTALE GUIDEBOOK

GUNSHIP ACADEMY BOOK
HEROES LANCE CLUEBOOK
HEROES OF THE LANCE BX ...
HILLSFAR CLUE BOOK

MAGAZINES

WHINTERS COMMEDIC BOSCC 0.00
AMAZING COMPUTING
AMIGA ACTION MAGAZINE 5.85
AMIGA COMPUTING4.95
AMIGA COMPUTING DISK
AMIGA FORMA1 DISK MAS 8.95
AMICA PIES MACAZINE
AMIGA PLUS WITH DISK 14.85
AMICA WORLD SPECIAL
AMIGAIRSH INTHINATIONAL 8.95
BYTE3.50
COMPUTEI MAGAZINE 2.95
COMPUTER CAMING WORLD 2.50
SRAFIX MASAZINE
GRAFIX MACAZINE WIDSK 14.85
BILLIONOV B OF

VIDEOTAPES

MINSA HARD DRIVER VIDEO	39.85
NAMEA VIDEO MAGAZINE	14.85
MIGA WORLD WOEDTAPE	
DELLOGE PAUNT 3 VIDEO	
DESECTOR TUTOREAL VIDEO	29.95
ETTING STARTED W/AMIGA	
MAGINE: A SUIDED FOUR	
HUSSICAL AANIGA VIDEO	
TURSO SIL VER VIDEO	
ILTIMATE VIOEG PROB 1	
ILTIMATE VIDEO PROD 2	38.85

This is the Best-Selling Optical Mouse for the Amiga

- nager-precise transfing
 No-moving-part construction for Increased reliability.
 NGGGG button makes it compatible with A2024 softwar
 A-Vindows and URXL

encies, New with a FREE B.M.D.E. (A \$20.96 Value). Buth the receive Dity Don Enhances wark on the Amine 9900 and with System Z.O.



HOYER FORCE ...



lmagine Hot New 24-bit 30

ANDCA DODG HAMDON V 1

AMIGA PROG RANDEK V.1 ...
AMIGA PROG HNDEK VOL2 ...
AMIGA PROG REF CARD
AMIGA SYS PROG GUE LIST ...
AMIGA SYS PROG GUIDE

AMIGA TRICK & TRY DISK AMIGA TRICKS & TRY ... BARD'S TALE CLUE BOOK

BARD'S TALE II CLUERK

BLICK ROGERS HINTBOOK

CHAMPIONS CLUFBOOK.

COMPUTES 18T BY AMIGA

. 18.95 ... 8.95 ... 8.95 ... 8.95

Hendering and Animation Software \$1,9900



ULTIMA OFFICIAL BOOK

Amagine: A guided tour

\$2695



The Art Department

\$14900



Broadcast Titler The best video string program just got even

A Powerful New **Telecommunications** Package from Centaur Software

> New and In-Stock!



NEW

Pixel 3D



World Atlas 2.0

- Now on 4 Disks
- Information on more than 170 countries
- 255 maps added in 2.0
- Multitasking



Deskiet Full Color

Print full color on your HP Deskjet printer! Inkmun Full Celer Kit\$34.95

Lemmings 33795



Excellence!

The WYSIWYG word processor with

Great Price .. \$10900



VISA, Mastercard, American Express, Discover, International Phone and Mail Orders, Educational, Corporate and Aerospace Purchase Orders Accepted.

ANNOUNCING ANOTHER CREATIVE COMPUTERS FIRST:

THE CREATIVE COMPUTERS DIRECT ADVANTAGE MASTERCARD



USE YOUR DIRECT ADVANTAGE GOLD MASTERCARD ANYWHERE AND EARN DOLLARS GOOD ON EVERYTHING WE STLL!

- 1st Year Membership Freel Save \$40

Tee Buyer Insurance
 The Direct Advantage MasterCard's Purchase Assurance protects most items you buy with your card against loss, fittils, five or accidental breakage for a half 90 days from the data of purchase.
 Boutha Manufacturer's Warryartyl
 You'll automatically receive Direct Advantage MasterCard's Extended Warryarty on almost every purchase, thereby doubting the manufacturer's warryarty up to a maximum of one additional year.

Now, perly distinguish pour for business or personal use with your Direct Advantage Gold MasterCard, earse points good toward the purchase of everything we self- one penny low every two dollars you spend. It makes no difference where you see your card or what you buy - before you know it, you'd have thousands of the to redeem on the cathlog term of your choice!

One quick cell to the Direct Advantage customers service and redemption centers in all It takes to turn your points into immediate sayings on everything we self. Whole's more, you'd receive a quarterly point statement to keep you up-to date on the total points you or service and redemption center in the difference to the point of the control of the contr

Every Direct Advantage Gold MasterCard holder automatically receives a line of credit of up to \$15,0001 Take advantage of this offer today!

Call 1-800-872-8882 to apply!

Announcing the Creative Computers Exclusive Money Back Guarantee Program

Now and through June 30, 1991, when you purchase any accelerators, floppy drives, memory expansions, hard drive controllers or Newtek's Video Toaster from Creative Computer: vou are protected by a full 30-day. No-Questions-Asked Money Back Guarantee!

Are you in the market for a Video Toaster but don't know if it will work right with your set-up? Or are you waiting for your Amiga to compute but don't know what an accelerator will mean in practical terms to you? You need not wait any longer. Just buy it from us, and if you don't like it, send it back for a full refund!

CC-MBS rules: Limited-time offer only applies to above listed categories only. You must call Costomer Service to obtain a Return Authorization number before sending the item(s) back. The Item(s) must be in original condition and in original packaging. No damaged items will be accepted. Refands issued within 14 days of receipt of the retorned Item(s). Retund is limited to \$3,000 per custemer.

Overnight service to Canada as Iow as \$15

Most rates cheaper than Express Mail at the Post Office!

USE OUR TOLL-FREE INTERNATIONAL PHONE LINES

Australia 0014-800-125-712 ; Ganada 1-800-548-2512; Oenmark 0434-0297; France 19-0590-1099; Italy 1878-74086: Japan 0031-11-1351: Netherlands 06-022-8613: Norway 050-12029; Switzerland 046-05-3420; United Kingdom 0800-89-1178.

Beat International freight service and low, low rates via:



OWES SERVICE for both support call 218-552. 2292 from 11 a.m. to 7 p.m. PST.

or all claim support limited and Liberations, composed and anomalous procedures or other acception. No surcharge for Visial Country of the Country of the

Credit Cards Accepted





Avernight



ORDER BY PHONE OR MAIL IN THIS FORM

- CATIVE COMPUTERS at 4453 Bulondo Beach Mird., Lawredale, CA 90260 dors only stilling to billion andrease

Name Address Zip State City_ Country Day Phone# (Night Phone# OTY. PRODUCT NAME UNIT PRICE TOTAL 7% SALES TAX SHIPPING METHOO: UPS Ground Airborne Express DHL International orders TOTAL Other_ OFFER CODE: METHOD OF PAYMENT: P1640111 Check Money Order Visa MasterCard American Express Discover CREDIT CARD USERS ONLY: Credit Card #. Exp. Date_

Signature



LEMMINGS

By Dodson Yaple

Lemmings are odoriferous arctic rodents notorious for periodic mass suicide. You'd think that would rule out computer-game stardom. But no-Psygnosis craftily transformed the mean-tempered ice-rats into lovable Pillsbury Doughboys with green hair and 78-rpm voices. These little guys are so darn cute you just can't help wanting to save them from self-destruction. That's where your problems begin.

Lemmings (\$44.99) looks like an arcade game, but it's more a series of puzzles: Save a specified number of the cuddly creatures within a given time limit, or else repeat the level. You manage the action by bestowing various skills on individual lemmings, enabling them to construct bridges and tunnels that divert their less-gifted buddies to safety.

Icons across the bottom of the screen represent the skills at your disposal: climbing, parachuting, traffic control, bridge building, demolition, and three kinds of digging. Select a skill, then click on the desired rodent, and that lemming will do as you



Dig and climb and Jump and live.

command. The others, however, will cheerfully plunge to their doom at every opportunity. When so many of the contrary little vermin have reached room temperature that you can no longer succeed, you have to reset with the apocalyptic Nuke 'Em option and try again.

Lemmings' graphics and sound are polished, but unambitious. What it lacks in flash, however, it makes up for in comfort: Smooth and addictive, it includes a fast restart option, instant access to any level you've already seen, and a nifty two-player mode with 20 levels

of its own. The program detects and uses extra memory. It recognizes an external drive and minimizes disk-swapping on single-drive systems. The only rough edge is the DOS-based copy protection.

To make sure you experience plenty of stress and frustration, Lemmings increasingly restricts your use of the most helpful skills. The screens get so tough that you think there must be design flaws. Goofy music drones on relentlessly, subtly lowering your intelligence. By level 50, you're considering suicide yourself. .. and level 51.

awaited game from

France's UBI Soft looks like

a computer comic book or ▶

Crib Notes

By Peter Olafson

DID EVERYBODY GET Shadow of the Beast II (\$59.99) for Christmee? No econer do i enswer e etack of Beaet meil (eee the Merch '91 Crib Notee), then e tresh eupply of queetlone errives on thie eupremely difficuit Peygnoeis ercede-edventure.

A number of people ere perplexed over whet to do with the eherd of stone remelning after they used the crane to drop the siab on the spike. Piay Wile E. Coyote, thet's what. You'li need to push the etone over to the lever to the right, then climb the rope to roughly... (well, you figure it out) and jump on the lever. Then get over to the lower elevator in time to be lifted up to lehrem the dregon.

No, you can't get beck out of the march the wey you came, end so you chouldn't visit it until you ere prepered to croes the oceen. To do thet, you'il need the horn thet eummone e eee creeture. The horn doeen't come eeelly. You must have hendled the glant by the bridge in juet the right wey. (Don't fight him. Pley hard to get, end coex him onto the bridge.)

You'il went to investigate the breech he'e created. There aren't e lot of options down there, but you'il need to be feerless in your jumping end eggreeelve with the little dregon-like creaturee. (Use the old men'e weapon. There'e eleo e healing potion eomewhere down there if you run into trouble.)

If you can't come up with 36 gold pieces for the eneil—eix cheste with eix coine eech—your geme is over. A number of people heve found only 24, so here's e quick rundown on where to find them.

There'e one cheet in the Keep; one just below the ebode of Berloom the dregon; one through the Pygmy Forest, upeteire end to the Continued on p. 72.

To locate developers of the games reviewed, see the manufacturers' addresses list on p. 88.

graphic adventure with a

science-fiction theme. At

first glance, this long-

58 June 1991

BAT

By Peter Olafson

delightfully different

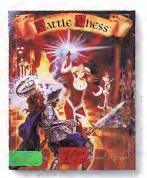
BAT (short for Bureau of

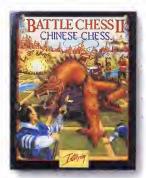
Astral Troubleshooters) is a

FOR THE BEST IN CHESS, MAKE THE PERFECT MOVE.



Check.





And Mates.

The Royal Game of Chess will never be the same. Interplay Productions now challenges you to choose from three different chess programs, each offering its own unique blend of stunning animation, spectacular sound, and powerful algorithms designed to test your tactical and strategic thinking.

- CheckmateTM, winner of the 1990 World Personal Computer Blitz Chess Championship in Lyon, France, is so powerful that Amiga Games Guide called it "easily the strongest-playing chess program yet for a personal computer."
- Battle ChessTM, a SPA award winner for best graphics, brings chess to life by combining a magnificent chess logic system with colorful, humorous,

and dramatic three-dimensional animations. Video Games & Computer Entertainment went so far as to call it "the next step beyond all existing chess programs."

■ Battle Chess II: Chinese Chess[™] uses even more animation and sound than the original Battle Chess[™] to bring the world's most widely played version of chess to the West. Computer Gaming World called it "a feast for chess lovers which will leave you wanton to play again 15 minutes after each game!"

All of Interplay's chess programs have 2D or 3D graphics, multiple levels of difficulty, and allow a choice of opponents (computer, face-to-face, or modem).

If you're looking for a challenging opponent, want to find a program that'll teach you or your children how to play, or just experience some new twists on strategy and tactics, Interplay has a game for you.

Interplay chess programs. Whatever your game, make the perfect move.

To order, call 1-800-969-4263.

Interplay Productions 3710 S. Susan, Suite 100 Santa Ana, CA 92704

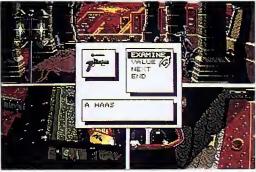
Interplay is a registered trademark of Interplay Productions, Inc. Checkmate™, Battle Chess™, and Battle Chess II™ are trademarks of

Interplay Productions, Inc.

Circle 185 on Reader Service card.



graphic novel. Each new scene in the domed alien city of Terrapolis doesn't replace one before it, as in most adventures of this type, but is placed beside it in a new window. city, there's a "dungeon" (an even more dangerous underground city) and a three-dimensional environment over Selenia's inhospitable desert, which you'll negotiate in a pilotable air-



Small scenes hide big surprises.

Looks can be deceiving, and BAT (\$49.95) usually isn't that simple. For instance, you might think that these scenes-most of them small, but strikingwere simply static backdrops until an animated, spidery robot wanders across the room, or a rocket takes off, or an elevator heads up the side of a building, or an alien ear twitches. It's a charming touch, if only window dressing, and it's only the beginning. You can hardly move your mouse pointer across a screen without it changing shape to show the range of actions available at a given spot: a cartoon bubble or talking head for discussion, a bottle for drinking, an arrow for a way out, and so on.

That fidgetiness of environment and a pleasantly high level of interactivity (there's almost always something to click on) go a long way toward making BAT great fun. There's also a lovely assortment of little toys to explore. You'll use telephones, food dispensers, a Simon-like arcade game and a four-function computer (named BOB) installed in your left forearm.

Once you've explored the

craft called a DRAG. Variety and acronyms are the spice of BAT.

The story is another James Bond variant: You're a secret agent, punching his one vague lead in an attempt to catch a mad scientist who is threatening to destroy the planet unless it's turned over to him in 10 days. You'll probably need BOB to get to him, and the Biodirectional Organic Bioputer is one of the little pleasures that makes BAT worth investigating. It's one of a scant few games to incorporate programming within the game, and the first I've seen to do so successfully. You can use a simple if-then language to create what are essentially complex macros.

Now, on the down side, it's difficult to finagle your way out of some screens, and Amiga-owners trained in left mouse button clicking may be frustrated to find that often this brings up BOB when you least want him. (Mouse placement needs to be quite precise.) Finally, as big and varied as this two-disk world is (and it's huge), the game sometimes has a confining feeling.

Continued on p. 68.



Street Rod 2, it's not the same old drag

- ▶ Over 60 high perfarmance parts to add on.
- ▶ 25 hat street vehicles to custamize and race. ▶ 4 thrilling race scenarios: Mulhalland Drive, Las Angeles River Aqueduct, Grudge Night and street racing.

800-558-0003

Compute Ability Consumer Electronics

800-558-0003

Use standard VGA or multisyncmonitor & get FF Video on AMIGA 500/1000/2000

AD SPEED All AMIGA Computers

- 14.3 & 7.16 MHz
- 100% Compatibility•No-Solder

A2000-\$339

• 32K Static RAM Caching

500 XP

20 Meg w/512K\$	369
52 Meg w/ 512K\$	519
52 Meg w/2MB (256x4)\$	579
52Meg w/2MB (1Mx4)\$	669
105 XPS w/512K\$	769
105 XPS w/2 MB (1Mx4)\$	919
EVERYDAY LOW PRICE	S!

w/MNP5 V.42BIS

AMIGA 500&

2000 MODEM

Cable included

Expandable to 8MB 1MB **2MB**

\$135 \$205

Supra RAM 500 1/2MB Exp.-A500

All Supra Ram products come w/factory installed memory chips, fully warran tied by Supra. Watch for cheap configurations! Ask questions before you buy!

8 MB \$405

GREAT PRICES!

NEW DRIVES

1.5 Hard Disk Drive For the A500 **Great Price at**

KX-P 1180 KX-P 1624

KX-P 4420

A500-\$359

NEW

40 Meg Internal Hard

Drive Package

featuring 28MS 42.8 Meg

Seagate 351A/X 1.5" hard disk drive

Package includes: AD-IDE, cables, Software and Drive

> D RAM 540 ØK Exp. to 4MB

KX-P 1123 NEW NEW NEW\$229...

CALL FOR THESE NEW KX-P MODELS

• 1123 • 1124i • 1654 • 4450i •

KX-P 1124 - GREAT PRICE!\$249..

Stair

NX 2420 Rainbow-HOT!\$299

NX 1001 Multifont NEW\$139 NX 1020 Rainbow NEW\$185 NX 2420\$279

■CITIZEN

200GX - Big Seller	. \$169
GSX 140 - Great Price	\$289
GSX 145 Wide Carriage	.\$399
Color Kit 200GX/GSX 140	\$49

Seagate AMIGA 500/2000 HARD DRIVE PACKAGES

DRIVES	DRIVE ALDNE	TRUMPCARD 2000	TRUMPCARD PRO 2000	SUPRA WDRD Sync 2000	AdSCSI 2080 w/ OK/8MB Exp.	TRUMPCARD 500		GVP Ser 11 HC OMB -Not Exp.	GVP SerII HC OMB Exp to 8MB	DataFlyer 2000	DataFlyer 500
ST 157N-1 49MB/28MS	\$239	\$349	\$429	\$329	\$409	\$429	\$479	\$389	\$439	\$329	\$369
ST 277N-1	\$289	\$399	\$479	\$379	\$459					\$379	
ST 296N 80MB/28MS	\$319	\$429	\$509	\$409	\$479					\$409	
ST 1096N	\$349	\$459	\$539	\$449	\$519	\$529	\$589	\$499	\$519	\$449	\$489

LOW PRICES

Quantum Drives

SAVE \$\$\$\$

DRIVES	DRIVE ALONE	TRUMPCARD 2000	TRUMPCARD PRD 2000	SUPRA WORD SYNC 2000	AdSCSI 2080 w/ OK/8MB Exp.	TRUMPCARD 500	TRUMPCARD PRD 500	GVP Hd Card OMB Exp-8MB	GVP Serii HC OMB Exp- 8MB	DataFlyer 2000	DalaFlyer 500
52LPS	\$269	\$379	\$459	\$369	\$439	\$449	\$509	\$419	\$459	\$369	\$419
105MB	\$369	\$479	\$549	\$469	\$539	\$549	\$609	\$529	\$579	\$469	\$529
210MB	\$749	\$859	\$909	\$849	\$919	\$909	\$959	\$879	\$929	\$849	\$919

800-558-0003

Comput Ability Consumer Electronics

800-558-0003

Series II A500 HD

A500 w/52 Meg	\$629
A500 w/80 Meg	
A500 w/105 Meg	\$849
Uses Quantum Orives, come w	/ OK &exp. to 8M8
68030 ACCELE	RATORS

Series II for 2000 w/SCSI Controller 22MHz w/1MB exp. to 13 & Math Co ...\$899 33MHz w/4MB exp. to 16 & Math Co \$1679 **IDE CONTROLLER**

50MHz A3050 w/4MB + Math Cop....\$2299 Call for Quantum AT/IDE Drive Configurations

> See Opposite page for Series II **Hard Card Packages**

TRUMPCARD 500 SPECIAL W/Quantum Drive W/Seagate Drive

ST 157N-1 .\$429	52LPS \$469
ST 177N \$509	105MB \$579
ST 1096N\$529	210MB \$939

RECREATION

RECREATION	
SOFTWARE	
688 Attack Sub31.95	
A10 Tank Killer30.95	
All in One	
Altered Destiny	
Anarchy24.95	
Arachnaphobia	
Armada 25/2531.95	
Armaga 25/25	
BAT31.95 Bandit Kings/Ancient China 36.95	
Bandit Kings/Ancient Unina 36.95	
Bane / Cosmic Forge 1MEG 36.95	
Bard's Tale III 31.95	
Barney Bear each 21.95	
Battle Chess 28.95	
Battle Command31.95	
Battle Isle 31.95	
Battle Squadron 24.95	
Battlestorm 30.95	i
Battletech 19.95	i
Baud Bandit 28.95	
Bill Elliot Nascar Challenge 30.95	
Billy 1he Kid25.95	ì
Black Gold24.95	
Blades of Steet	i
Blood Relations 31,95	i
Blue Angels 30.95	,
Blue Max	i
Buck Rogers 31.95	,
Budokan 25.95	6
Captive	
Cardinal of the Kremlin 30.95	,
Carmen San Diego/Each 30.95	
Centurion 31.95	,
Champions of Krynn	,
Chaos- Oungeon Master 2 24.95	,
Chessmaster 2100	6
Chuck Yaeger AFT 2.0 25.95	,
Civil War 37.95	
Codename: Iceman	5
Colonel's Bequest 36.95	5
Comic Setter 41.95	5
Comic Art Disks ea	5
Conflict: Middle Fast	,
Conquest of Camelot 36 95	
Gontinuum	5
Crackdown	
Crime Oces Not Pay	5
Gillie Goes Hot I by	

210MB	\$9.
Dick Tracy	
Olno Wars	24.9
Distant Sun	39.9
Oragon's Lair	30.9
Oragon's Lair II/Time Warp .	34.9
Oragon Strike	31.9
Oragon Wars	30.9
Orakkhen	36.9
Dungeon Master	24.9
Eagle's Rider	30.9
Elvira	36.9
Empire	31.9
Eye of the Beholder	37.9
F-19 Steaith Fighter	36.9
F-29 RetallatorFacesTris III	31.9
FacesTris III	24.9
Falcon	30.9
Operation Counterstrike Operation Fire Fighter Fast Eddie Pool	16.9
Operation Fire Fighter	19.9
Fire and Forget II	22.9
Fire and Forget II	28.9
Clicht of the Introder	20.9
Flames of Freedom	30.9
Cull Metal Planet	20.9
Genghis Kahn	26.0
Colden Ave	17.0
Golden Axe Gunboat Gunship Hardball II	30.0
Gunshin	34.0
Hardball II	30.0
Harley Oavidson	31.9
Harmony	28.9
Harnoon	37.0
Battleset 2 or 3	20.9
Harpoon Scenerio Editor	25.9
Heart of China	36.9
Harns Ouest	36.0
Holyes Book of Games	21.9
Hoverforce ,	, 30.9
Holyes Book of Games Hoverforce Hunt for Red October	20.9
Immortal	31.9
Imperium	25.9
Indiana Jones-Graphic	20.9
Indianapolis 500	31.9
Ishido Jack Nicklaus Unlimited	34.9
Jack Nicklaus Unlimited	36.9
James Bond :Stealth Affair	34.9
Jones in the Fast Lane	24.9
Keys To Maramonte	31.9
King's Bounty	31.9 24.0
King's Ouest 1 2 or 2	20.0
King's Outst 1,2, 01 3	36 u
Knight Force	39.0
Legend of Faerghail	23.0
Legend of Faergran	24.0

VIDEO PACKAGE

 PANASONIC 1410 CAMERA-COPYSTAND w/LIGHTS+DIGIVIEW GOLD 4.0+

PRICE INCLUDES 16MM LENS WITH: VARIABLE IRIS **FIXED IRIS** \$379 \$349

TOASTER

CALL FOR THE LOWEST PRICE!

8odega 8ay\$299

AT Once - PC Emulator ... \$259

Chroma Key/ Switcher \$329

AMAXX II ..

AE Hvv Duty Power Sup \$95 ECE Midi Interface ...

Ami Gen/Mini Gen \$89/185 Gravis Mouse Stick .

AE High Density 3.5 Drive \$185 Firecracker 240-2 Meg CALL Air Drive Int 3.5"-A3000 \$89 Flicker Fixer

Amtrac Trackball\$69 Mega Midget Racer 25MHz \$599

TBC Time Base Corrector

.. \$48

AMIGA

. \$137 Gravis Adv. Joystick \$31

MIDI Gold A500

Mega Midget Racer 33MHz \$669

MIDI Gold Insider A2000 .. \$59

GOLDENIMAGE® HAND SCANNER

w/MIGRAPH TOUCH-UP

For Amiga 500/2000/2500/3000

MASTER 3A-1 "THE DRIGINAL" 3.5" Micro Floppy **External Disk Drive**

for Amiga 500/1000/2000 **\$79**

MASTER 3 3.5" Micro Floppy **Ext Oisk Orive** w/LED Track Display

500/1000/2000 \$35 Replacement Mouse Optical Mouse

GI 500 AMIGA 500

EXPANSION KIT Master3A-1+

512K w/Clo

64 95

for 500/1000& \$99 2000

1/2 Meg Ram Exp. w/Clock-Cal

2MB RAM \$175

Dick Tracy	30.9
Oino Wars	24 0
Distant Sun	39 0
Oragon's Lair	30.0
Oragon's Lair Oragon's Lair II/Time Warp	34 0
Oragon Strike	310
Oragon Wars	30.0
Orakkhen	36.9
Dungeon Master	24 9
Eagle's Rider	30.9
Flyira	36.0
Empire Eye of the Beholder F-19 Steaith Fighter F-29 Retailator	31.9
Eve of the Beholder	37.9
F-19 Stealth Fighter	36.9
F-29 Retaliator	31.9
FacesTris III	24.9
Faicon	30.0
Operation Counterstrike	16.9
Operation Fire Fighter	19.9
Operation Fire Fighter Fast Eddie Pool	22.9
Fire and Forget II	28.9
Flames of Freedom	30 9
Flight of the Intruder Flight Simulator II	36.9
Flight Simulator II	30.9
Full Metal Planet	30.9
Genghis Kahn	36.9
Golden Axe	17.9
Gunhoat	30.9
Gunship	34.9
Gunship	30.9
Harley Oavidson	31.9
Harmony	28.9
Harmoon	27 0
Battleset 2 or 3 Harpoon Scenerio Editor	20.9
Harpoon Scenerio Editor	25.9
Heart of China	36.9
Heros Quest	36.9
Holyes Book of Games	21.9
Holyes Book of Games Hoverforce	30.9
Hunt for Red October	20.9
Immortal	31.9
Imperium	25.9
Indiana Jones-Graphic	20.9
Indianapolis 500	31.9
Ishido	34.9
Jack Nicklaus Unlimited	36.9
James Bond :Stealth Affair	34.9
Jones in the Fast Lane	24.5
Keys To Maramonte	31.9
King's Bounty	31.9
King's Ouest 1 Enhanced King's Ouest 1,2, or 3	24.9
King's Ouest 1,2, or 3	30.9
King's Quest 4 or 5	36.
Knight Force	28.

l	Chroma Key/ Switcher \$329	MIDI Gold Insider A2000 .
ı	Color Splitter \$109	Perfect Sound
ı		Safaskin 2000/600
		Video Master 2
	Leisure Suit Larry 2 or 3 36.95	THE PROPERTY OF 2
	Lemmings 30.95	Terrian Editor
	Loom37.95	Skl or Oie
	Lost Patrol 31.95	Sorcerian
	M-1 Tank Platoon36.95	Space Ace
	Maverick24.95	Space Quest 1 or 2
	Mavis Beacon Typing 31.95	Space Ouest 3
	Mega Fortress 37.95	Spellbound
	Mega-Traveller 136.95	Spirit of Excalibur
	Mercenaries 37.95	Spot
	Mid Winter 24.95	Star Control
	Monday Night Football 30.95	Star Fields
	Monopoly 30,95	Star Flight ,
	Monty Python 32.95	Stellar 7
	Nations at War37.95	Stunt Track Racer
	Night Breed	Stratego
	Night Dawn 18.95	Street Rod II
	Night Hunter 23.95	Strike Aces
	Night Shift 25.95	Strip Poker 2
	Nrtro 28.95	Super Off Road Racing
	Nobunga's Ambition 36.95	Swap
	Dbitus 36.95	Teenage Mutant Ninja Turtles
	Operation Combat 30.95	Tennis Cup
	PGA Tour Golf31.95	Tetris
	Pick N Pile25.95	Terrain Envoy
	Pirates! 28.95	Test Orive II
	Planet of Lust	Data Disks ea
	Police Quest 1	Test Onve II1
	Police Quest 11 36.95	Their Finest Hour
	Pools of Radiance31.95	Theme Park Mystery
	Populous 31.95	Third Courier ,
	Powermonger	Time Machine
	Prince of Persia 24.95	Treasure Trap
	Pro Tennis Tour 231.95	Turrican
	Duest tor Glory 2	Typhoon of Steet
	Ourcksilver Pinball	Ultima 5
	Railroad Tycoon	Universe 3
	Raw Copy 34.95	Universal Military Sim 2
	Red Baron 36.95	Vette
	Red Storm Rising 34.95	Vista Pro
	Renegade Legion 37.95	Warhead
	Rise of the Dragon 36.95	Warlord
	Risk	Welltris
	Robocop II 28.95	Where in the Carmen each .
	Roit'em 86.95	Woll Pak
	Romance of 3 Kingdoms 42.95	Wonderland
	Rules of Engagement 37.95	World Atlas
	Scrabble24.95	Wrath of the Demon
	Search for the King 36.95	Yeager's Adv. Train 2.0
	Second Front31.95	
	Secrect of Monkey Island 37.95	PRODUCTIVI
	Sex Vixens-Outer Space 22.95	SOFTWARE
	Sextimates	SOFIWARE
	Shadow of the Beast 30.95	Anti Virus Device
	Shadow of the Beast II 36.95	Art Nenartment Pro

Safaskin 2000/500	\$17
Videg Master 2	9999
Terrian Editor	14.95
Skl or Oie	31.95
Sorcerian	36.95
Space Ace	34.95
Space Quest 1 or 2	30.95
Space Ouest 3	36.95
Spellbound	24.95
Spirit of Excalibur	30.95
Spot	24.95
Star Control	
Star Fields	
Star Flight ,	31.95
Stellar 7	21.95
Stunt Track Racer	
Stratego	30,95
Street Rod II	
Strike Aces	30.95
Strip Poker 2	24.90
Super Off Road Racing	
Swap	30.95
Tennis Cup	28.95
Tetris	24.95
Terrain Envov	
Test Orive II	
Data Disks ea	
Test Onve III	
Their Finest Hour	
Theme Park Mystery	
Third Courier ,	30.95
Time Machine	
Treasure Trap	
Turrican	24.95
Typhoon of Steet	37.95
Ultima 5	36.95
Universe 3	31.95
Universal Military Sim 2	36.95
Vette	
Vista Pro	
Warhead	
Warlord	
Welltris	. 21.95
Where in the Carmen each .	
Woll Pak	
Wonderland	
World Atlas	
Wrath of the Demon Yeager's Adv. Train 2.0	OF OF
PRODUCTIVI	TY

SOFTWARE

Antı Vırus Device	
Art Department P	ro
Audio Master 3	**************

RAM Exp. \$125	Exp. to 8MB
C Developer V5.0 177.95	PC Globe 4.0
C Pro V5.0 119.95	Pelican Press

Aztec C Developer V5.0 177.95	PC Globe 4.0
Aztrec C Pro V5.0 117.95	Pelican Press
Bars & Pipes	Phasar 4.0
Bars & Pipes Pro	Photon Paint 2.0 87.95
Baud Bandit	Planet of Lust24.95
Bridge 6.0	Power Windows 2.5 54.95
Broadcas1 Titler 2.0	Print Master Plus
Byte N' Back	Pro Video Gold
Can Do	Font Packs
Pro Pack 1	Pro Video Post189.95
Comic Setter	Video Fonts 259.95
Comic Art Oisks ea	Pro Write 3.0 91.95
Cross OOS 2 024.95	Professional Draw
Deluxe Music Construction 61.95	Professional Page 2.0 214.95
Deluxe Paint III94.95	Structured Clip Art 36.95
Deluxe Photo Lab	Templates 36.95
Deluxe Print II 51.95	Project D V2.035.95
Oeluxe Productions 128.95	Proper Grammar 57.95
Oel Vid3 w/Del Photolab/limit Quan, 94,95	Quarter Back
Oigidroid 59.95	Ouarter Back Tools 52.95
DigImate 324.95	Duick Write 43.95
Digrpaint 3.058.95	Raw Copy 34.95
Digiview gold 118.95	Roll'em 86.95
Director 2.0	RX Tools35.95
Disk Labeler24.95	Scala 269.95
Disk Master28.95	Scene Generator29.95
Oos 2 Dos	Showmaker 214.95
Dynacadd 669.95	Soft Clips Vol. 1,2, 3 or 4 44.95
Elan Performer 2.0 87.95	Spectracolor 64.95
Electric Thesaurus 28.95	Sterling Service BBS 84.95
Excellence V2.0 109.95	Superbase 4 309.95
GFA Basic 3.587.95	Superbase Personal 2 87.95
Gold Disk Office 166.95	Superbase Pro 3.0 189.95
Gold of the Aztec 30.95	Superplan 87.95
Heros Ouest	T.V. Show V2.0 64.95
Image Finder 41.95	Tiger Cub 59.95
magine194.95	Title Page 112.95
Invision + 174.95	Transwrite
Karatorits ea	TV Text
Lattice C	TV Text Protessional
Macro Paint	Ultra Oesign 164.95
Mavis Beacon Typing 31.95	Vaxine24.90
Mega Paint	Vette30.91
Midi Recording Studio 39.95	Video Effects 3-D
Movie Setter 41.95	Video Titler V1.592.95
MR Backup35.95	Video Tools182.9
Music X	VideoScape 30 V2.0 184.9
Music X Jr	VIP Video Interface 104.9
On Line Platinum	Vista Professional 86.9
Page Setter 2	Viva
Page Stream V2.1	Voice Recognition 109.95
Buddu System	Works, Platinum 112.9
Business Forms 24.95	World Atias 35.9
Postscript Font Oisks 24.95	WShell 28 9
Dot Matrix Fonts	X Copy Professional 47.9

31.95

30.95

28.95

Curse/Azure Bonds

Day of the Viper

Oas Boot Submarine .

Oeath Knights of Krynn Designasaurus

INFORMATION 414-357-8181 FAX 414-357-7814 P.O. 80X 17882 Milwaukee, WI 53217 HOURS-CST

Leisure Suit Larry

MON-FRI 9am-9pm SAT 11am-5nm ND CREDIT CARD SURCHARGE



Audio Master 3 ... 64.95 DO Matrix Fonts ... 24.99 X Copy Professional ... 47.99

**ROBERINIO INFO: Specily system. For fast delivery sind castleris' checke or money order. Personal & Company 164.91

**ROBERINIO INFO: Specily system. For fast delivery sind castleris' checke or money order. Personal & Company 164.91

**ROBERINIO INFO: Specily system. For fast delivery sind castleris' checke or Masser delivers of the \$4.00 to continue to U.S. A include to U.S. A include to U.S. A include \$4.00 to Continue to U.S. A include to U.S.

SAVE \$5.00 LATER!

VIDEOS

Order now and save \$5.00 off the retail price and get a \$5.00 savings coupon good towards your next TechMedia Video purchase!

The Amiga Primer

NEW Anyone with an Amiga whether a new owner or an experienced user - will find this easy-to-follow video invaluable. Applicable to all Amiga models, The Amiga Primer presents System 2.0 and AmigaVision™ the Amiga Workbench, the CLI,

peripherals, and utilities in an entertaining format with vibrant graphics and upbeat music. There's no easier way to master your Amiga! #TMAP 90 minutes \$29.95 \$24.95



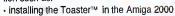
FREE!

Psygnosis Lemmings™ Game Demo Disk

with your order

NewTek's Video Toaster

The Video Toaster™ from NewTek is hailed as the world's first video computer card enabling broadcast-quality production on desktop. Whether you are considering the purchase of a Toaster™ or are just curious about all the excitement, the Video Toaster™ video tape provides in-depth information such as:



- adding and testing other essential equipment
- · selecting source material and processing
- · manipulation of many digital video effects including flips, tumbles, mirrors, spins, splits and titles
- producing 3-D animations
- · painting on video images See for yourself what the amazing Toaster™

#TMVT 45 minutes

can do!

\$24.95 \$19.95



Hot Rod Your Amiga

Learn how to get maximum power from your Amiga. Get valuable advice on how to expand memory internally and externally; select and install hard drives. memory boards and accelerators; back-up software and utilities; RAM and drive space differences; and other useful tips. Hot Rod Your Amiga also covers the revolutionary

Video Toaster™ and other high-end peripherals such as DCTV. Soup up your Amiga now!

#TMHR 45 minutes

\$24.95 \$19.95

Animation Video Volume II

In response to the clamor for Long another Amiga animation video-Awaite tape, the AmigaWorld editors have created Animation Video Volum Volume II. After sifting through hundreds of contest submissions and viewing countless hours of animation clips. the result is a showcase of scintillating animations, technical brilliance and imaginative plots. You'll be thoroughly entertained as you absorb new techniques and ideas. Whether you just brought your Amiga home from the store or have created your own animations before, you'll want to add Animation Volume II to your Amiga video collection!

#TMAV2 90 minutes



Desktop Video, Volume I

Whether for home or studio use, Desktop Video shows you how to utilize your Amiga in conjunction with a video camera to

create professional-quality productions with live video and animation techniques. Learn how to select a genlock; build a desktop video system; choose and use a video camera; create scripts, storyboards and titles. Plus tips on editing, adding sound, special effects, and much more. A must for any video enthusiast!

#TMDV 84 minutes

Call Toll-free 1-800-343-0728

Lesert autes 11 source Single & Chards Air 20

Amiga

The Musical Amiga

With detailed insight from some of the best-known Amiga musicians, The Musical Amiga teaches you how to create both simple tunes and complex musical compositions. Sessions on MIDI systems include sequencing, editing and synthesizing. Learn the techniques used in digital sound sampling, sound manipulation and creation of unique sound effects. Accompanied by an entirely Amiga-produced soundtrack, this dynamic video is sure to enlighten you with the remarkable musical

Amiga Graphics

#TMMA

potential of your Amiga!

60 minutes

Amiga Graphics is all you need to explore the extraordinary graphics capabilities of your sophisticated Amiga. Learn the pros and cons of the most popular paint programs. Get three intensive sessions on fonts, clip art and digitizing, as well as in-depth coverage on the elements of design and style, Amiga Graphics also illustrates interlace functions, when Hold And Modify (HAM) should be used, and covers smearing, washing, tinting and perspective. An invaluable tool for any artist!

#TMAG 54 minutes





Amiga is a registered trademark of Commodore Business Machines, Inc.

Video Toaster is a registered trademark of NewTek. Inc.

Animation Video, Volume I



A best-selling video, containing commercially broadcast and award-winning animation art, this video will fascinate, entertain and inspire you as it demonstrates the amazing capabilities of Amiga animation. Each of the many animations is accompanied by unique music and sound effects, and is prefaced by the artist's name and a listing of all the animation products used. Experiment and explore the endless possibilities yourself! \$19.95 \$14.95

#TMAV 48 minutes

AMIGA BOOKS

New Edition!

AmigaWorld Official AmigaDOS 2 Companion



by Bob Ryan Harness the power of the new AmigaDOS 2! The Amiga Companion is back - in a revised and expanded

edition for AmigaDOS 2.

It's your expert guide to the new DOS, filled with hundreds of instructions, tips & techniques not found in any other book. Covers:

- · The Amiga OS, including Workbench, Shell & ARexx
- The Workbench GU!
- · Workbench menus and tools
- · The 13 Preference Editors
- · The Extras 2 disk
- · AmigaDOS -- handling disks, files & devices
- Configuring AmigaDOS
- · Manipulating files with Copy, Delete, MakeDir, Rename
- AmigaDOS command scripts and shortcuts
- · The ARexx macro language and a fully annotated program to customize
- Plus over 100 screen shots, command references, a valuable glossary, and an error code summary for solving problems more easily!

#1-878058-09-6 \$24.95 416 pages



AmigaWorld Official AmigaVision Handbook

by Louis Wallace

Express your creativity on the Amiga - with this complete guide to the new AmigaVision! The only authoritative guide to the hottest program for your Amiga. Written in an easyto-follow style and heavily illustrated, with over 150 screen shots, this book provides a step-by-step primer for mastering AmigaVision.

Special Features:

- ·What exactly multimedia is, the art of authoring, the basic menus, common requestors, and program editing information
- · Control commands covering: interrupts, database icons, wait icons, audiovisual icons, and module icons
- · In-depth editors, tools, and programming information
- · Valuable appendices filled with advice on the best hardware and software products for AmigaVision, and a special guide to version 1.7.

#1-878058-15-0

353 pages

\$24.95

Call Toll-free 1-800-343-0728

The AmigaWorld Catalog • PO Box 802 • 80 Elm Street • Peterborough, NH 03458



Your source for advanced technical information

Whether you're a programmer or a developer of software or hardware, you simply can't find a more useful publication than this. Each big, bi-monthly issue is packed with fresh, authoritative strategies and advice to help you fuel the power of your computing. In every issue of The AmigaWorld Tech Journal you'll find:.

- · Practical hardware and software reviews
- · Step-by-step, high-end tutorials on such topics as 3-D graphics algorithms and Implementations, handling HAM, C compilers, and more
- · Good programming practices to help you make the jump from BASIC to C, or C to assembly, or tie everything together with ARexx
- · Tips, news and tools covering commercial software, books and talk on the networks
- · Programming utilities from PD disks, bulletin board systems and networks

PLUS! Each issue comes with a valuable companion disk, including executable code, source code and the required libraries for all our program examples plus the recommended PD utilities, demos of new commerical tools and other helpful surprises. Order your one-year (6 bimonthly issues, plus 6 invaluable disks) Charter subscription to The AmigaWorld Tech Journal for the special price of \$54.95. That's a saving of \$35.75 off the single copy price! MONEYBACK GUAR-ANTEE. If at any time you're not satisfied with The AmigaWorld Tech Journal, you're entitled to receive a full refund-no questions askeu. 1 Year (6 issues/6 disks) questions asked.



The AmigaWorld Tool Chest

Quality Software at an Affordable Price

BUY 2, GET 1 FREE!







Buy any two AmigaWorld Tool Chest back issues, and get a third one FREE!

#TC11. Fix corrupted disks or recover accidentally deleted files. Sit back and enjoy original animation and sound clips. Enjoy colorfully wacky, shoot-'em-up arcade fun. Create singleor double-image icons, in four to eight colors. Get a rich assortment of HI-RES clip art monsters.

#TC12. Save money with a utility program that enables you to format disks that AmigaDOS chokes on. Generate different types of graphs. Cut out an excellent collection of B&W clip art for your desktop publishing or graphic design needs.

Generate an incredible assortment of colorful patterns. Add dazzle to your animations with detailed 3-D spaceships. #TC13. Plot your biorhythms. Make drivehead cleaning easier. Create spectacular images with Mandelbrots. 3-D objects perfect for ray traced animations. A CLI utility to help you find files quickly and easily. Plus holiday clip art, an AmigaFlight animation, and a technical discussion on how AmigaDOS stores information to disk.

#TC14. A 3-D graphics special issue, containing vector objects, TicTacToe, a graphing program, and 3-D ray traced animation. Keep names and addresses organized with a friendly database and address book. Perform an analysis of digitized sound and display it in a graphic manner. Get B&W clip art food images suitable for desktop publishing. ■

#TC15. A best-selling issue! Combine great graphics with digital sounds to get an entertaining Amiga version of the classic connectthe-dots game. Insert a nice assortment of digitized animal sounds into your animations. See an instructive rendering of Cartoon Man in various stages of animation. Test your reflexes with a high-speed arcade game. Make multiple copies of custom labels. ■

#TC16. Generate complex 3-D vector objects of a wide variety of terrain,

from flat plains to rocky mountains. Plot out mathematical equations. Format your text files to print on both sides of the paper. Plus six digitized sounds perfect for animations and multimedia presentations and a mouse-driven graphic adventure game with excellent digi-

tized sounds. Also includes Tinyball, "The World's Smallest Baseball Arcade Game." ■ #TC21. Battle your computer to take over the planet Circe. Assign RGB values to printer and screen output. Get a powerful database manager suitable for home and small business. Create animated sprites by editing up to 100 frames at once. Execute CLI programs, batch files and ARexx scripts with the simple click of a gadget.





Call Toll-free 1-800-343-0728



#TC22, Design instruments and waveforms for use in other programs. Play your Amiga keyboard like a piano. Change the width. height, location, title, colors and depths of the CLI window with a single command. See how a piston works with a Turbo Silver animation. Plus a slick checkbook manager and a file encryption and decryption tool.

#TC23. Create small windows from CLI scripts. Find the letter, file or program you misplaced on your drive. Play the strategic game of Dyno-Wars. MatheMagic lets you find the day of the week for any date in this century; provides the mean, standard deviation, skew and kurtosis for selected data; finds a polynomial to a set of XY data; and solves a set of algebraic equations.

#TC24. Create tables suitable for text and graphics integration. Link a text-based document to other applications with a hypertext program. Automate your Little Black Book. Plus a drawer with four disk and memory utilities and a colorful solitaire game called Color Logic.



FREE!

Psygnosis Lemmings™ **Game Demo** Disk

with your order



Save your screen to an IFF file. One or two can play "Warrior", a fun shoot-'em-up adventure game. See how fast your Amiga does solid-polygon animations. Change the colors of your screen. Examine memory at any location in the Amiga. Also includes Hi-Res IFF brushes of all 50 states and 10 Canadian Provinces.

INTRODUCING

The AmigaWorld Game Package

A classic three-disk enter-

tainment package combining great graphics, super sound effects and loads of arcade action...

Snakeskin Shootout. Experience the action of a Wild West shootout as you rescue the beautiful Truplie Triplets from the nasty Grumpley Gang.

Lunatic. Accept the mission to retrieve a Sacred Ghetto Blaster from the moon and bring it back to an ancient Mayan Pyramid.

Deluxe Poker. Practice your hand at AmigaWorld's version of Video Poker.

TinyBall 1.1. Enjoy real ballpark sound and action in "The World's Smallest Baseball Arcade Game".

GeoRoll. Geometric shapes add a unique twist to this two-player Triple Yahtzee-like game. ...and more! Not available anywhere else, so order your package today!

#GD1 13 games \$16.95

Become An **AmigaWorld Tool Chest** Subscriber!

From graphics to animation, from programming to productivity, and from utilities to games, you can do it faster and easier with the Tool Chest. If you want your Amiga creations to be the very best, subscribe to the Tool Chest today.

As a Tool Chest subscriber, you are entitled to these exclusive privileges:

- · \$17.75 off the single-issue price.
- · The lowest possible rates on any AmigaWorld products, including AmigaWorld subscription and renewal discounts.
- * Discounts off AmiEXPO admissions.

FULL MONEY BACK GUARANTEE. If you are not completely satisfied with the AmigaWorld Tool Chest, we'll send you a refund — no questions asked.

#TCSUB

6 issues

\$17.10 \$59.95



Call Toll-free 1-800-343-0728



AMOS (Game Creator) 59.99

Armour-Geddon26.99

Art Department Professional 149.00 AudioMaster III 60.00

Baud 8andt 31.99

Blitz BASIC 106.00

Buck Rogers 35.99

Byte 'N Back 41.98 CanDo 85.00

Classic 8oard Games 19,98
Cross DOS 4.0 24,99
Curse of the Azure Bonds 35,99

DigiView Gold 130.00

ICD, Inc. Ad IDE 40 109.00
Ad IDE 40 378.00
Ad IDE w/ 40Q AT Drive 378.00
AdRAM 540.0k 115.00
AdSpeed 235.00

Novia 201 499.00

DynaCAD 689.00 E-Z FM Synthesizer36.99

Electric Thesaurus 31.99

Excellencel 125.00 F-19 Stealth Fighter38.00 Falcon 33.89
Falcon Mission Disk #2: Firefight 18.50

HashBack 45.99 HD Express24.99 Ham-É 395.00

Hyper8ook 64.99 mageFinder......45.99

Lemmings 31.99

Lost Patrol 36.99 MR Back-Up 34.99

Macro Paint (Lake Forest Logic) 79.00

Maverick25.99 Maxi Plan +..... 58.99

Monopoly31.99

Overlord 31.99
PageStream 2.1 189.00
PageStream Forms: 8usiness 24.99

Pelican Press 58.99

PenPal 85.99 Pixel 3D 52.99

Professional Conversion Pack 75.00

Project D 2.0 36.00

Pro Vector 175.00 Pro Write 3.095.99

QuarterBack Tools53.00

Search for the King35.99

Proper Grammar

DigiPaint 3 ..

A 10 Tank Killer

Great Prices! Superb Service! For information or price listing: 414-548-8125 Pursuitable BBS: 414-548-8140

SpectraColor	58.9
Surface Master	22.9
TransWrite	41.9
Universal Military Simulator II	
Video Toots	
Vista Professional	
Warlords	31.9
Workbench Management System	

Spotlight on Hardware

App	lled Er	nginee	ring
DataLink 2	000/MNP/	Send FAX	179.00
		ιP	
		P/Send FA	
Floppy Driv	e 880K	aliana ariani	95.00
			195.00
Power Sup	ply 500, H	eavy Duty	88.00
DataLink E Floppy Driv Floppy Driv Power Sup	e 880K e, High D	ensity	95.00

D.	
	Accelerator, Sapphire 68020 269.00 Alfalnk 44,99 Alfonce 269.00 Audio Englineer 215.00 Color Splitter 106.00 Disketrias, Sony Bulk 100 Pack 395.00 Disketrias, Sony Bulk 100 Pack 395.00 Disketrias, Sony Bulk 100 Pack 299.00 Floppy Drive, Internal 500 90.00 Floppy Drive, Rocfec Sllm 89.00 Floppy Drive, Rocfec Sllm 89.00 Floppy Drive, Britania Son 429.00 HardCard, GVP 105Q Series II 0/0 429.00 HardCard, GVP 105Q Series II 8/0 479.00 HardCard, GVP 42F Series II 8/0 519.00 HardCard, GVP 52Q Series II 8/0 519.00 HardCard, GVP 105Q Series II 8/0 519.00 HardCard, GVP 105Q Series II 8/0 529.00 HardCard, GVP 105Q Series II 8/0 529.00 HardCard, GVP 105Q Series II 8/0 529.00 HardCard, Impact 500/52Q Seri II 629.00 HardCard, Impact 500/105G 899.00 IllumIlink 8999 KickStart Board 319.00 MegaChip 2000 Board 235.00 MiDl Intertace, ECE 52.00 Mouse, Beelie Mouse 42.99 Mouse, Konyo Golden Image 42.99 Mouse, Konyo Golden Image 49.99 Mouse, Konyo Golden Image 4000 42.99 Mouse, Konyo Golden Image 4000 4000 42.99 Mouse, Konyo Golden Image 4000

Sunta	Corpor	ation
501 Clone 512		G,10,1

501 Clone, 512K	. 55.00	В
Floppy Drive, SupraDrive	99.00	8
Hardcard, 40Q W/ Word/Sync	399.00	ŝ
Hardcard, 105Q w/ Word/Sync	619.00	ŝ
Harddrive, Supra 500XP 105/2	955.00	8
Harddrive, Supra 500XP 40/2	585.00	8
Harddrive, Supra 500XP 52/2	.685.00	Š
Memory, SupraRAM 2000 2 Megs	195.00	8
Memory, SupraRAM 2000 4 Megs	285.00	8
Memory: SupraRAM 2000 6 Megs	375.00	Š
Memory; SupraRAM 500RX 8/1	135.00	8
Modem, 2400+ (MNP & V.42bis)	169.00	8
Modem, 2400 MNP (Levels 2-5)	149.00	Š
Modern, 2400zi+ (MNP & V.42bis)	159.00	B
SCSI Controller, Word/Sync	110.00	8
		ø

Perfect Sound 3.0 69.00
Personal TBC 799.00
Printer, TI PostScript PS 35 1695.00
Removable Harddrive, Ricoh 799.00
SIMM Modules 1 x 8 80ns 57.00
SCSi Controller, GVP Series II 0/0 155.00
SCSI Controller, GVP Series II 8/0 210.00
Scanner, MiGraph 315.00
Super Agnus Chip 95.00
Syquest 50 M8 Removable 407.00
Syquest Cartridges 95.00
Toaster Techniques Video 39.99
Trackball, AmTRAC 69.99
Video Master, VIDTek 1075.00
Video Toaster 1459.00

Orders Only Please: 800-544-6599 Visa/MC/CODs Make Safe Harbor YOUR Computer Port

W255 N499 Grandview ■ #204 ■ Waukesha, WI 53188 ■ 9 AM to 5 PM Mon.-8at.

M ESERV

From p. 60.

Communication is not BAT's strong point. You can ask nonplayer characters three set questions, plus the time, and their answers quickly grow repetitive. (The game could use a parser.) Combat is essentially a quick-draw. Some of the most enticingly elaborate scenes have disappointingly little interaction.

Nevertheless, I think this BAT flies. There's too much going on here to ignore.

WOLFPACK

By David T. McClellan

A solid World War II U-boat and convoy simulation game, WolfPack (\$54.95, Broderbund) puts you at the helm over a long and dangerous campaign. You play the wolfpack commander (over several types of U-boats, including "Milk

stroyer control room. At hand on both U-boats and destroyers are engine-room telegraphs (speed), rudder and compass-heading displays and controls, a depth indicator, a pannable viewscreen or periscope, a tactical map (maintained by a yeo-



Just like the real thing, only drier.

Cow" resupply subs) or the convoy commander (over merchant ships and destroyers) against the computer or a friend (with the computer handling the controls and scoring) in the opposing role.

A game runs to one of of four conclusions: a preset time limit runs out, some portion of the convoy makes it to its destination. or one or the other side is totally destroyed. You'll need a least one megabyte of RAM and several open evenings to play (with many beers and salami sandwiches for sustenance), but the game is definitely worth it.

The screen is a detailed view of a U-boat or deman), fuel indicators, gunnery and other weapon controls, an order/status log, a vessel ID (used for switching between vessels of your command), a hydrophone display, and vessel-specific controls. To enhance the realism, some of the controls and displays aren't available before given game-years. For example, hedgehog mortars weren't seen on destroyers until 1942.

When commanding a specific vessel, you can alter its course, speed, and depth (for U-boats); make ready and fire weapons, listen for enemy targets via hydrophone, sonar, or radar (and detect those looking for you); or give orders to the vessel's captain and

WANTED

few good thieves, healers, warriors and spell casters to join our hardy band of adventurers on the GEnie(sm) service. Must be devious and daring, cunning and

courageous. Ready to slay dragons or raise flagons. And able to emerge from perilous encounters in the darkest tavern or wood with both your person and your reputation intact.

Sign Up Now Carrier

If you're ready for adventure on Gemstone or any of our other twelve exciting multi-player games, sign up for GEnie today. Heres how.

1. Set your modem for half duplex (local echo) at 300, 1200 or 2400 band.

2. Díal toll free-1-800-638-8369. Upon connectíon, enter HHH. 3. At the U#=prompt, cnter XTX99470, GAMES then press RETURN.

4. Have a major credit card or your checking account number ready.

For more information in the U.S. or Canada call 1-800-638-9636.

Hold On! How Low Can We Go? New Titles Daily • New Budget Titles Weekly

THEW THIES BY	
Gold of the Realm 5 th Gear	\$ 7.98
5 th Gear	\$ 7.98 \$ 9.95 \$ 9.95
Blackjack Academy	\$ 9.95 \$ 9.95
Arkanoid Karate Kld 2	\$ 9.95
Mystery of the Mummy	\$ 9.95 \$ 9.95 \$ 9.95 \$ 9.95
Rolling Thunder	\$ 9.95
Battle Squadron	\$ 9.95
Mystery of the Mummy Rolling Thunder Battle Squadron Beyond Dark Castle Darius	\$13.95
Onslaught	\$13.95
Onslaught Silent Service Space Harrier 2 Tiger Road	\$ 9.95 \$ 9.95 \$ 9.95 \$13.95 \$13.95 \$13.95 \$13.95 \$13.95 \$13.95
Space Harrier 2	\$13.95 \$13.05
Tiger Road Where Sleeping	
	\$13.98
And Inches Air Strike USA Ail Dogs Go To Heaven Anarchy Apprentice Arkanold 2 Bard's Tale 2 Blasteroids	\$14.95 \$14.95 \$14.95
Alr Strike USA	\$14.95
All Dogs Go To Heaven	\$14.95
Apprentice	\$14.95
Arkanold 2	\$14.95
Bard's Tale 2	\$14.95
	\$14.95
Bloodwych Carrier Command	\$14.95
Chronoquest 1	\$14.95
Chronoquest 2	\$14.95
Crackdowwn	\$14.95
Ferrari Formula 1	\$14.95
Fastbreak Ferrari Formula 1 Final Countdown	\$14.95
Flintstones Gauntlet 2	\$14.95
Harmony/E-Motion	\$14.95
Harmony/E-Motion Infestation Keef The Thief Kid Gloves King of Chicago Ninja Spirit P-47 Thunderbolt	\$14.95
Keef The Thief	\$14.95
Kid Gloves	\$14.95
Ning of Chicago	\$14.95
P-47 Thunderbolt	\$14.95
	\$14.95
R-type Rick Dangerous Road Blasters	\$14.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95 \$16.95
Road Blasters	\$14.95
Starglider II Steller Conflict	\$14.95
Steller Conflict	\$14.95
Super Hangon	\$14.95
Test Drive The Fools Errand Thems Bell Marten	\$14.95
Theme Park Mystery	\$14.95
Theme Park Mystery Three Stooges Weird Dreams X-Out	\$14.95
Y-Out	\$14.95
	\$16.98
Austerlitz Battle Squadron Blue Angels Bombuzzel	\$16.95
Battle Squadron	\$16.95
Bombuzzel	\$16.95
Collosus Chess X Cyberbowl Dragons Breath	\$16.95
Cyberbowl	\$16.96
Firepower	\$16.95
Gunship	\$16.95
Ivanhoe	\$16.95
Persian Gulf Inferno	\$16.95
Simulcra Stunt Car Racer	\$16.95 \$16.95 \$14.95 \$17.95 \$17.95
Turrican	\$16.95
Xenon 2 Back To The Future 2	\$14.95
Back To The Future 2	\$17.95
Castle Master Escape from the Planet of Robot Monsters	
of Robot Monsters	\$17.95
Wings	\$17.95 \$17.95 \$18.95
Lords of the Riging Sun	\$18.95 \$18.95
Wings Jumping Jackson Lords of the Rising Sun Shadow Of The Beast Sword Of Sodan	\$18.95
Sword Of Sodan	\$18.95 \$18.95
Treasure Trap	\$18.95
Ninia Remix	\$19.95
Treasure Trap TV Sports Football Ninja Remix Red Storm Rising Chaos Strikes Back	\$18.95 \$18.95 \$19.95 \$19.95
Chaos Strikes Back	\$22.95 \$23.95 \$23.95
It Came from the Desert TV Sports Basketball	\$23.95
i v sports basketball	\$23.93

GAME DACKS

\$14.95

\$17.95

\$19.95

\$19.95

\$29.95

OMME PACILS	
Quattro Sports (includes 4 games): BMX Racing, Italy 90 Soccer, Pro Tennis, Super Ski. all for -	\$17.95
Heroes (includes 4 games): Running Man, License to Kill, Star Wars, Barbarian 2.	417.30
Star Wars, Barbarian 2.	\$18.95

all for -Milestones (includes 4 games): Grand Monster Slam, Spherical Hard & Heavy, Circus Games.

Quattro Arcade (includes 4 games): SAS Combat Simulator, Pub Trivia, Nitro Boost Challenge, Pro Powerboat.

Wheels of Fire (includes 4 games): Turbo Outrun, Chase H.Q., Powerdrift, Hard Drlvin'.

T-N-T (includes 5 games): Hard Drivin', All Points Bulletin, Dragon Spirit, Xybots, Toobin. all for -

Monster Pack (includes 3 games): Shadow of the Beast, Nitro, Infestation. Premier Vol. 2 (includes 4 games): Mercenary, Backlash, Eliminator, Custodian.

all for -\$14.95 Arcade (includes 2 games): Xenon 2, Bombuzzle. \$16.98

NEW TITLES!

Gods	\$35
Super Car 2	\$35
SŴIV	\$35
Super Monaco Grand Prix	\$35
Panzer Kick Boxing	\$35
Advanced Destroyer Simulator	\$35
Brat '	\$35
Skull and Crossbones	\$35
Mega Lo Mania	\$35
Gauntlet 3	\$37
Nebulus 2	\$35
Railroad Tycoon	\$40
Railroad Tycoon F-15 Strike Eagle 2	\$40
· ·	

EURO MAGS

Amlga Format w/ disk	\$9
Amiga Action w/ disk	\$9
Amiga Computing w/ disk	\$9
C.U. Amiga w/ disk	\$9
Ace (no disk)	\$6
The One (no disk)	\$6
Raze (no disk)	\$6
Amiga User International (no disk)	\$6
0	

SHIPPING

Visa, MasterCard, American Express: \$5 for up to 3 items, Add \$1 for each additional item.

C.O.D. (Cash Only) \$9 for up to 3 items, Add \$1 for each additional item

Outside U.S. - Call! **FORE MORE INFO** or FAX ORDERS Call (305) 491-0398 Fax (305) 772-0334

Orders 1-800-888-9273 THIS IS JUST A SAMPLE OF WHAT WE HAVE CALL FOR THE LATEST TITLES! 201

A

shift to another vessel in your command. Orders include anchoring, patrolling an area (U-boat or destroyer), shadowing (U-boat shadows a surface vessel), and joining or leading a convoy (destroyer or merchant ship).

Both sides have a variety of captains for you to issue these orders to-some will follow orders blindly, some will adapt them conservatively to the situation, and some are blood-and-diesel warriors who will break orders to attack a target. Because you can directly control only one vessel of your fleet at a time, you'll need to tailor your strategy around your captains and what you expect the "other side" to do.

Situations can change quickly; game time can go from real time to 64 times faster, but combat is always real-time, and that's fast enough, given all you have to control and avoid. After you learn the controls and displays (handled via the mouse or keyboard), controlling a U-boat or destroyer becomes more natural, and your tactical and strategic mapping displays help you wage the

war. It's great to sink enemies and watch your overall strategy come together as your other commanders carry out your orders while you move around.

WolfPack's manual is quite complete. It begins with a brief but interesting history of U-boat warfare from 1939 to 1944, and devotes chapters to overall game play, running Uboats, commanding destroyers and convoys, and designing missions. There are also sections describing the pre-designed set of a dozen missions which take place from the Caribbean to Iceland to Gibraltar, the captains and their personalities, the U-boat and destroyer types and capacities, and weapons and sensor capacities year-by-year. You'll need to keep the manual handy not only for the quick-reference chart of keyboard commands, but also because the game employs look-up copy protection.

I've been playing Wolf-Pack for over a month, and the excitement hasn't worn off yet. If you like tactical simulation games, put this one on top of your stack. You'll reach for it often.

WARLORDS

By Peter Olafson

With both good looks and brains, Warlords (\$50, Strategic Studies Group) is a princess among strategy games. A fantasy wargame, it pits you against any combination of up to seven friends or grumpy computer opponents (at four difficulty levels) in the conquest of the sprawling land of Illuria.

The basic idea is to take as many neutral cities as quickly as you can, and to gear their troop production toward subduing your opponents one at a time. Warlords is not quite a typical wargame, however, as it has some rather adventure-like elements. The heroes (scrappy armies in themselves) may search ruins and temples (little rooftop air-conditioning units) to find treasure, allies, and 14 magical artifacts that are handy in combat. Sages, and sometimes libraries, have useful information, as well. (Mind, this is rather like putting a quarter in a slot machine. You simply order the hero to search and are told the results.)

Warlords looks nice and sounds great. The map is large, colorful, and well-designed. The closeups of dif- ▶



E-COSBF OSNUSYY

+ \$4 SHIPPING & HANDLING

NOW YOU CAN BACK-UP ANY k in around 30 seconds!!

 ☐ YES IT'S TRUE!! SYNCRO EXPRESS IS A HARDWARE/SOFTWARE SYSTEM THAT WORKS WITH "DIGITAL IMAGE COPYING". THIS IS THE METHOD THAT COMMERCIAL DUPLICATORS ACTUALLY USE TO MAKE THE ORIGINAL FROM THE MASTER DISK. DATA IS TRANSFERRED AS RAW DIGITAL INFORMATION.

- UNMATCHED PERFORMANCE!! It's hard to draw comparisons between Syncro Express and old fashioned Disk Copiers. Because they use parameters, they are almost quaranteed NOT to copy your latest purchase since parameters are not made available until several months after the release. But with the Syncro Express image copy method you can get a backup of all the latest programs, including blockbusters and utilities, quickly & easily. Start protecting your software investment NOW!!
- ☐ Menu Driven Control Program couldn't be simpler!! Select Number of Tracks, and that's it!! Don't be mislead by outrageous claims for "Nibbler" programs. This system can guarantee success by using the very Hardware/Software techniques that made the original!!
- J Now with a SUPER POWERFUL "SYNCRO" MODE that actually synchronises your Disk Drives for even greater accuracy!!
- ☐ Can be switched OUT when not in use totally transparent. ☐ Make up to 2 copies simultaneously*. ☐ At least one External Drive required.

MANY NEW FEATURES INCLUDING ...

- DRIVE SPEED CHECKER now you can check the speed of your drives DFØ-DF3. Easy and very accurate.
- DISK TOOLKIT Syncro III now includes a range of Disk Tools Fast Format, File Copy, Hard Drive File Copy, Ram Disk, Disk Rename etc. etc.
- Easy to use.

□ Some programs now have very sophisticated protection including long tracks, incryption, etc. But remember, whatever the programmer comes up with, the disk then has to be commercially duplicated. That's where Syncro Express beats all others - it transfers data at MFM/TTL level, just like the duplicators.

☐ Syncro Express is designed in Europe where "Digital Image Copying" is the present sensation. This device, with it's own custom chip, goes even further by offering a complete system for under \$70!!

→ Manufactured in our European facility using the latest Surface Mount Techniques - Syncro Express is warranted for 6 months against manufacturing defects.

PLEASE STATE AMIGA 500*/1000*/1500/2000/3000 WHEN ORDERING



CALL TOLL FREE- 1-800-962-0494 -ORDERS ONLY

coast to coast technologies inc.,

1855 S. R.434, SUITE #208, LONGWOOD, FLORIDA 32750.TECHNICAL/CUSTOMER SERVICE (407) 767 - 0779



*ADD \$4.00 SHIPPING AND HANDLING (\$10.00 CANADA/MEXICO) ALL GOODS SHIPPED 2ndDAY AIR UPS
WE ACCEPT MASTERCARD/VISA/CHECKS/MONEY ORDERS or COD's (ADD \$2)



VISA

h n 0 Circle 114 on Reader Service card. - Vista 1.2 (1 Meg NTSC or PAL)

Create real world landscapes — addictive fun! No more foreground polygons with Gouraud shading! More realistic looking. New "Tree" function increases

Intuitive controls - new, improved manual. Make

fly through animations!

Why settle for 2-D "wallpaper" landscapes when you can explore real places and over 4 billion imaginary fractal landscapes in 3 dimensional space? List price only \$59.95!

More than a thousand real landscape expansions are available now. Call or write for our brochure. Too much to list! Imagine constructing and exploring a perfect scale model of Yosemite or Olympus Mons Mars on your Amiga! Inexpensive upgrade from 1.0 available to registered owners.

DISTRICT SUITS 3.0 (1 Meg NTSC or PAL)

Award winning Planetarium Program for the Amiga.

Recreate the night sky on your computer — any place on earth, any time from 10,000 years in the past to 10,000 years in the future. What did the night sky over Baghdad look like the night Desert Storm was launched? What was in the sky the night the Allies crossed the English Channel on D-Day? What did your birthday sky look like in the city where you arrived, or what is in the sky for viewing next week? Distant Suns allows you to click and identify thousands of objects (over 10,000 if you purchase the 2 disk NASA skymap expansion). Information tells the viewer the star type, magnitude, location on the celestial sphere, and distance in light years. Draw the constellations, identify the deep sky objects, display over 213 deep sky objects (if you own the Deep Sky Objects expansion disk). Distant Suns contains dozens of other useful and entertaining features. Only \$69.95 for this amazing and easy to use key to the universe.

Vistapro 1.0

- **Vista**pro 1.0 (3 Megs NTSC or 3.5 Megs PAL)

The Professional version of Vista — T.V. Broadcast Quality! Vistapro is an immediate hit with professionals and serious hobbyists around the world! Produces absolutely stunning high res overscan landscapes in any output mode available on the Amiga. Easy interface and tutorial loaded manual. If you can display 24 bit color, Vistapro is an awesome tool for quickly producing broadcast television quality images and flythough animations. Vistapro is shipped as "standard equipment" with the Impulse Firecracker. Also works with the Toaster, DCTV, HAM-E, and Mimetics frame buffer. Compatible with Imagine, Turbo Silver, and Art Department Professional. More than a thousand landscapes now available as expansions. Upgrades from Vista are available for registered owners. Vistapro is major league fun for power users. List price: \$149.95.

Virtual Reality Laboratories, Inc.

2341 Ganador Court, San Luis Obispo, CA 93401 Phone or FAX: 1-805-545-8515

E

ferent troops-griffins to cavalry to light infantryprovide even more flavor. The game is full of digitized sound effects, musical flourishes and cues, so you always know what's going on.

Éven if you don't, it's simple to keep track. Several status screens show your position relative to those of your opponents. Commands are easily entered from pull-down menus or by clicking on buttons or the map. But be prepared: the computer opponents aren't the usual dopes. Leave a castle vacant, and they'll try to plant their own armies in it.

On the other hand, Warlords is rather slow on a 68000-equipped Amiga (it does run under 2.0). If you're well into a game and using the "observe" option to keep track of your opponents' moves, you can catch up on your reading between turns. Likewise, the

screen scrolling is on the bumpy side, and there's a distinct pause between the issuing of a command and the computer's response.

While there are lots of features, some could use refinement. The save-anytime option is convenient, but it permits a save-and-then-attack technique that pretty much amounts to cheating. The ability to focus production from up to four cities at a fifth city is a handy way to automatically build up forces at a given point, but there's no "map" mode to show the full production network. You don't need to lead each army by the hand; if you simply click on the destination, it seems to find the path least costly in movement points. If the destination is more than one turn distant, however, it won't complete the trip. If Warlords is a princess, I guess this means she still has to have her nails done.

From p. 58.

ieft, and another up and to the right in this same general area; another in the Crystai Caverns; and the last on the route to the Karamoon Oasis.

Some folks are getting dumped into the sewers when the goblins raise the drawbridge in the caverns, and that means restarting. You can't get past the stone door when the bridge is going up, so get on the drawbridge as quickly as possible and kill the fellow who's running the winch. Once that's settled, take care of the other enemies and have a bash at the door.

Getting out of your ceil should be simple if you've collected the booze from the Oasis. Give it to the guard. Once he conks out, use your mace on the door and do him In for a key. (You should also have found a key on your way In.)

Another common problem is finding the oid man's ring. Well, the ring's not far away at this point. Just head up and to the left. On your way out, don't rush to be first. Stay a bit behind the prisoner-you did release the prisoner, right?-and the going should be a bit easler.

Other readers keep getting dumped in an acid pool (up and to the left of the starting point) when they push one of the two switches on the wall. Wrong switch! You can get the right one by saving the man who's being lifted away by a demon, and having a chat with him on that subject.

· i've also had a number of questions on the original Shadow of the Beast (\$49.95)-typically complaints about the short life of the first enhanced weapon you find. if there's a trick here, It's simply not to waste good weapons on minor monsters, but save them for the colossi. Know where you're going, get there fast, and be sure you have the best weapon available. If you've made it to the gravevard. as several readers have, well, vou're almost done. Just head right and beat on the giant's toe.

Feei free to write by US mail to 12 W. 104th St., Apt. 3E, New York, NY 10025, or via E-mail on GEnie to P.OLAFSON or on People/Link to Peteroo. Send a SASE if you'd like a personal reply.

IN 1972, AN ELITE AIR CORPS FLEW OVER VIETNAM. THIH LAOS

Feel the adrenaline kick in as you scream down the carrier runway. You're up! And so is your squadron of F-4's. Now nothing can stop you except the deadly fire from those MiG 21's, SAM's and anti-aircraft flak.

Experience the raw emotion and harrowing danger of intense air combat over North Vietnam in this simulation based on Stephen Coonts' bestselling novel, Flight of the Intruder. Authenticated by Vietnam pilots who flew in the

> Linebacker Campaign of 1972, you won't find any other simulation so

like the real thing. Select from multiple missions or map out your own

using the mission creator. Control up to eight air-

Off you go to adventure, danger



Zero in on the MiG, before he zeros in on you.



Mission accomplished! Naw back

craft during one

mission (four A-6 Intruder bombers and four F-4

Capyright © 1986 Stephen P. Coonts. All Rights Reserved.
Flight of the Intruder and Spectrum HoloByte are trademarks
of Sphere, Inc. Other products are trademarks of their
respective holders.

Phantom fighter interceptors.)

Switch from the A-6 to F-4 cockpit anytime. UThirty-four different targets provide new challenges every time you take to the sky. Aerial photos

provide

a pre-

INCLUDED

of the target zones. For contin-

uous challenges, choose from 16 variables to determine the level of difficulty. Get Flight of the Intruder™ now and watch for the full-length motion pic-

ture coming this summer.





Spectrum HoloByte™

A Division of Sphere, Inc. 2061 Challenger Dr., Alameda, CA 94501 (415) 522-0107 Circle 141 on Reader Service card.

Mail order made easy...Call for a complete listing...Mail order made eas

Tired of knowing more about Amiga video than the people you **VIDEO** HARDWARE up. So we've brought in some

buy it from? The technology is expanding so rapidly it's hard to keep video experts to help you make the right selections.

16mm Lens w/ Variable Iris \$48 \$99 Amiger CBM2320 Display Enhancer \$269 Chroma Key Switcher call Color Splitter \$63 \$399 \$809

Copy Stand DCTV DPS Personal TBC Firecracker 2400 \$859 Flicker Free Video \$329 Frame Grabber \$535 Ham-E \$295 Minigen \$199 \$309 Panasonic 1500X Camera Panasonic WV1410 Camera \$189 RocGen RG300C Genlock \$call SuperGen 2000s \$1399 \$669 Supergen VideoMaster \$1,119 VideoToaster \$1,449

GRAPHICS

Produce perfection. Whether in print, on screen, or in video, your work is a reflection of you. It must be creative and it must be perfectly as you visualize it. Make it so. Because the powerful image, presentation and video tools you need are available to you, on your Amiga.

\$319 3D Professional Amiga Vision \$99 Broadcast Titler II \$229 Digipaint v3.0 \$62

Professional Page 2.0 Powerful, Easy to Use, Desktop Publishing!

 Free Training Video!
 Excellent Dot Matrix Output! Rotate Text or Graphics! · Built-in Word Processor & Spell checker!

• 1000 Colors on Screen!

ONLY \$199 BRIWALL's Choice for all our in-house DTP needs!

Amiga Vision Handbk \$18

Art Department Pro \$149 Deluxe Paint v3.0 \$96 Digiview v4.0 Director V2.0 \$135 \$82 \$109 Disney DynaCADD \$689 Hyperbook \$64 Imagine \$209 Professional Draw 2.0\$129 Pro Conversion Pack \$59 Pro Video Gold \$169 Pro Video Post \$219 Scala \$329 Sculpt/Animate 4D \$369

Video Titling Starter Kit \$179

Vista Landscapes each \$50

\$109

\$99

TV Text Pro

Video Titler v5.0

MODEMS

AM24 Mini Modem

Baud Bandit MNP5

SupraModem 2400

SupraModem 2400zi

Courier HST Dual Standard

Courier HST 38.4

a wise choice. With the size of files going up and the price-performance ratio coming down, slow modems just don't make sense. Raw speed is important but don't forget about data compression If you have questions,

Awesome modem speed is suddenly

we'll be glad to help. AE DataLink Express ext. MNP & SendFax

SupraModem 2400 Plus MNP5 v.42bis Modem/Phone Switch Box Telecommunication Software

Atalk III Terminal Software Baud Bandit Software Paragon BBS \$107 Sterling Service BBS \$89

Call the new, improved Briwall BBS at (215) 683-7499. 300/1200/2400 baud, 24-hours, with a full catalog and ordering online!

GVP Series 2 HC8/52MB Quantum GVP Series 2 HC8/80MB Maxtor GVP Series 2 HC8/105MB Quantum

GVP Series 2 HC8/213MB Maxtor

BAUD BANDIT BUNDLE Get the Baud Bandit 2400 baud modern, Baud Bandit terminal software and a cable.

only \$119

\$529

\$680

\$635

\$589

\$1,159

Drive Packages

\$200

\$79

\$139

\$629

\$939

\$98

\$119

\$175

\$125

Floppy Drives Some programs seem designed to encourage disk-

swapping! They tell you to insert disks so many times that you're getting disk-swappers' cramp! Who says you can't get excercise from a computer? But who wants to? You need an external floppy drive.

AE 880K 3.51 AE High Density 3.5" Master 3A-1 3.5" \$199 Air 3.5" Roctec 5.25" \$149 Roctec Slimline 3.5" \$94

When you double-click, results ACCELERATORS happen, right now. We want you to experience this satisfaction. So we help you choose a board matched to your system. And since we've fully test and configure your board, it's ready to go when you receive it.

Blistering speed means satisfaction.

GVP Combo 22mhz w/1MB \$call GVP Combo 33mhz w/4MB \$call GVP3050 50mhz w/4MB \$2,399 MegaMidget Economy \$519 MegaMidget Racer 25mhz \$669 MegaMidget Racer 33mhz \$889 AdSpeed \$239

GVP's combo boards do it all! A SCSI controller, a memory board (with up to 16MB on the 33MHz version), and an accelerator board with math co-processor, all wrapped up in a neat little package.

Call us for suggestions on drives and memory

DRIVES

Floppies are a pain and you've had enough. You need the freedom and safety of a spacious hard drive. We offer the best hard drives available with the controllers that make sense for your system. Your selection will arrive ready to run because we pre-test and format it.

Hard Drives Fujitsu 042MB 3.5" HH SCS1

Maxtor 080MB 3.5" LP SCSI Maxtor 213MB 3.5" HH SCSI \$410 \$929 Quantum 052MB 3.5" LP SCSI \$319 Quantum 105MB 3.5" LP SCSI \$509 Quantum 105MB 3.5" HH SCSI \$429 Quantum 210MB 3.5" HH SCSI \$799 Ricoh 050MB Removable w/1 cart \$819 Seagate 048MB 3.5" HH SCSI \$269 Seagate 084MB 3.5" HH SCSI Seagate 330MB 5.25" HH SCSI \$389 \$1.469 Syquest 044MB Remyble w/case&cart \$679 Syquest 088MB Remyble w/case&cart \$1069 Tape backup Units call Optical and large capacity drives

Let us put a custom drive package together for you! Call for details.

\$729

GVP Series 2 HC8 A500 40MB Fujitsu GVP Series 2 HC8 A500 52MB Quantum GVP Series 2 HC8 A500 80MB Maxtor GVP Series 2 HC8 A500 105MB Quantum \$649 \$729 \$929 Novia 20i 20MB \$519 Supra 500XP 040MB Quantum & 512K \$539 Supra 500XP 052MB Quantum & 2MB Supra 500XP 100MB Quantum & 2MB \$999 Wordsync A2000/052MB Quantum \$459 Wordysne A2000/105MB Quantum \$539 SCSI Controller Boards Adide *AT* Drive Interface \$159

GVP Series 2 HC GVP Series 2 HC8 \$209 ICD Advantage ICD AdSCS1 2080 \$145 \$199 IVS Trumpcard Pro \$209 Wordsync \$109 Hardframe \$140 Dataflyer A500 w/case \$157 Dataffyer A2000 900 IVS TrumpCard 500 w/case Call 1-800-638-5757 for other Drives Package Prices.

MEMORY

You realize that you can really use more memory, but you're not sure of your options. When you call Briwall, e help you choose a memory board for your system. On many boards, we even install the chips and test the board to assure that everything works when you get it. Call for details.

A2000	0MB	2MB	4MB	8MI
GVP RAM8	/2 n/a	\$205	\$309	\$499
Supra8	\$105	\$209	\$299	\$489
A500	0MB	2MB	4MB	8ME
Baseboard	\$109	\$205	\$299	n/a
Supra 500R2	X \$139	\$219	\$399	\$569
Star8	\$call			

501-style 512K RAM expansion as low as \$49 A3000 4MB of Static Column ZIPs \$375

> A1000 256K front panels as low as \$79 *DRAM prices are subject to change

Microbotics 8-up! A2000 Memory Boards Populate your A2000 now with the lowest prices ever! 2MB-\$179 4MB--\$249

8MB--\$379

6MB--\$319

Firecracker 2400 A true, 24-bit graphics display board from Impulse for the unbelievably low price of \$859!

SOFTWARE

Even choosing the software you need is difficult these days. Memory requirements, and version changes can confuse your purchase decision. We help you sort out the issues, and can help you get your software installed when your order arrives. Just call our Techline if you have any problems.

Input Devices

be glad to explain.

U		
Amtrac Tra	ackball	\$68
AproDraw	12x12	\$48
Beetle Mo	use	\$42
Boing Opt	ical Mouse	\$92
GI Hand S	canner	\$28
Golden Im	age Mouse	\$36
GI Optical	Mouse	\$65
Gravis Joy		\$35
M4 Mouse		\$39
RocTec M	ouse	\$39
Sharp Colo	or Scanners	call
	00 Scanner	
	canlab	\$72
SketchMac		\$38

You can scan it in, roll it in, draw

it in, or push it in. If it sends the data to your Amiga we call it an input device. Don't know what these products do? Call us, we'll

υ I	
Amtrac Trackball	\$68
AproDraw 12x12	\$48
Beetle Mouse	\$42
Boing Optical Mouse	\$92
GI Hand Scanner	\$28
Golden Image Mouse	\$36
GI Optical Mouse	\$65
Gravis Joystick	\$35
M4 Mouse	\$39
RocTec Mouse	\$39
Sharp Color Scanners	call
Sharp JX100 Scanner	
w/Scanlab	\$72
SketchMaster 12v12	\$38

DBMAN V

Office

PenPal

Excellence V2.0

PHASAR v4.0

Pagestream v2.1

CrossDOS v4.0

Productivity Bible Reader KJV

Diskmaster Doctor Ami \$32 Janus Libs. V2.1 Sca11 \$189 Lattice C ++ Lattice C v5.1 \$189 \$129 \$199 \$185 Maverick Copier V2.0 \$58 Project D v2.0 \$36 \$189 Quarterback v4.0 842 Pelican Press *NEW* \$64 \$53 Quarterback Tools

SuperCard AMI \$72 Professional Page v2.0 \$199 Music Prowrite v3.0 \$109 Saxon Publisher \$229 A2000 Gold Insider MID1 \$64 SuperPlan \$95 \$64 AudioMaster 111 Superbase Professional V3.0 \$219 Bars & Pipes Pro \$237 Wordperfect \$149 Dr T KCS Level II V3.5 \$249 \$52 Dr T Tiger Cub ECE MlDl External Your Family Tree \$62 \$49 Utilities \$99 Future Sound Ami...Alignment \$29 Perfect Sound \$65 Arexx V1.0 \$32 Phantom (SMPTE) \$189 BAD Disk Optimizer \$30 Sonix \$50 Blitz BASIC \$105

Call for BOOKS and other software

ail order made easy . . . Call for a complete listing . . . Mail order made

Dazzling performance from your Amiga 1000 is available with any of **AMIGA 1000** these exciting expansion products.

You can add memory, storage, speed, or all three. Installation isn't always easy but we're ready to help you get your purchase up and running. Just call our TechLine,

Solid Products and Solid Support

\$32

\$36

\$36

\$49

Adspeed Fastrak SCSI + Case \$299 Insider II (0K) \$100 Insider II (1.5MB) \$299 Keyboard call Kwikstart A1000 \$88 MegaMidget Racer 25mhz MegaMidget Racer 33mhz \$669 \$889 Minimegs 2MB \$229 Rejuvenator 1000w/Agnus SupraDrive 40MB Quantum \$419 \$649

A1000 Starboard Owners Last chance for great prices on Starboard accesories!

Module--\$45 Upper Deck--\$32 Multifunction Module--\$45 (sorry, no Starboard 2's available) SCSI Module--\$45

All A1000 owners Upgrade to 512K for just \$79 Add a clock with Mousetime for \$27

CDTV Titles

Advanced Miltary Systems All Dogs go to Heaven Barney Bear Goes to School Case of the Cautious Condor Classic Board Games Fred Fish 1.1 (I-410) My Paint World Vista Atlas

Call for the newest titles!

Why buy mail order from Briwall?

1. Technical expertise to help you make the right decision. Buying the right product isn't easy. The broad selection makes it tough enough but new versions, compatibility problems, and functionality issues make it even tougher. We don't just take your order; we work with you to match your needs

PRINTERS

You want your good ideas to look good on paper too, so you need a printer that shows them off. But print resolution, available printer drivers, and the software you're using all affect which one is best for you. Tell us your needs and we'll be happy to help.

Canon BJ330 Bubble Jet	\$699
Canon PJ1080a Color Ink Jet	\$519
Citizen GX140 (24 pin)	\$329
Citizen GX145 (wide)	\$329
Citizen GX200 (9 pin)	\$189
HP DeskJet 500	\$539
Laser Printers	call
Okidata Laser 400	\$689
Sharp JX730 Color Ink Jet	1699

GREAT **PRODUCTS** AT LOW PRICES!



RocGen -- External genlock for the Amiga 500/2000 with fade control \$call RocTec 512K RAM expander for A500 \$49

RocTec Mouse for the Amiga RocTec 3.5" ultra-slim 880K external floppy

drive with low power consumption \$94 RocTec 5.25" 360/880K external drive \$149

RocKnight -- Anti-virus protection with total write and system-track protect for all external drives, plus track display

with the right products. 2. Pretested products to help ensure that your purchase works. Our inhouse, trained technicians pre-test memory boards, hard drives and many other products before they leave our door. When you get it, it works.

Technical expertise to help get your purchase up and running. Hardware peripherals are not always easy to get running. So we won't abandon you after the sale. We offer a free technical installation service for all hardware items. If you need us, call us and we'll walk you through the set-up.

4. Warranties and guarantee. Buying mail order can be intimidating but we make it easy and safe. We guarantee that if your purchase doesn't run on your system, we'll work with you unit you are satisfied. We also offer an extended warranty program, so call for details.

Our personal services help you pick the right product and get it running on your system quickly.

MISC. **PRODUCTS**

Expanding and enhancing your system is part of the fun of owning a computer. When you're ready to try something new, give us a call. We'll let you know what is available and help you choose the right product to enhance your system.

A500 BigFoot	\$92	AE Power Supply	\$89
AmiTote 500/2000	\$65	ATOnce A500	\$299
Bodega Bay	\$399	Bomac Tower A2000	\$239
CBM2232	\$319	CBM520 Vid Adaptor	\$45
Disks 3.5", 25pack	\$19	Multistart Il	\$85
Stereo Speakers	\$36	Switchbox a/b/c/d	\$29
•			
Covers, Skins	, Cabl	es, Disks call	

Video Bundle Specials A great start to a professional video package!

BCD-5000 Video Controller--\$call

Digiview Gold 4.0, Panasonic 1410 camera w/variable iris lens, copystand and all cables Complete Package -- \$399

NewTek's Video Toaster and DPS Personal TBC (internal, NTSC & SVHS, fully compatible), buy together and save -- \$2239

Software

There's a time to work and a time to play, and because the Amiga is the undisputed game machine champion, we carry the hottest entertainment software. Looking for a new title? Give us a call.

Armour-Geddon Bard's Tale III Centurion Dungeon Master 2 Elvira Gunboat Lemmings Les Maniey Quest For Glory 2 Secret of Monkey Island Sex Olympics Spirit of Excalibur \$34 Theme Park Mystery \$34 Wizardry 6 Yaeger's AFT 2.0

AD&D Special Two hot NEW titles from SSI

For a limited time, buy either Eye of the Beholder or Death Knights of Krynn (\$34 each), and get a FREE copy of Dragons of Flame!

Limited quantities

THE ICD ADVANTAGE

AdSpeed

Low-cost, low-power accelerator for your A500/1000/2000. Best overall performance of any accelerator in its price range!

Flicker Free Video

Eliminates interlace flicker on any Amiga computer when used with a VGA or multisync monitor.

AdIDE \$119

Put low-cost, *AT* drives on your Amiga with the smallest Amiga harddrive interface ever made. Available for 2.5" or 3.5" drives.

Novia20i

Now, an internal hard drive for your A500! Get a 20MB internal hard drive system with this package. (call for other sizes)

(USA and CANADA)

Outside USA: (215) 683-5661 Customer Service (215)683-5433 Tech Support (215) 683-5699 FAX (215) 683-8567

Any Visa and MasterCard accepted with NO surcharge
 Your credit card is not charged until your order is shipped

All orders received before 3PM will normally be shipped within 2 business days

☐ Software shipping charges are \$4.50 per order via UPS ground to anywhere in continental USA

☐ Hardware shipping charges are \$4.50 handling plus actual shipping and insurance charges
All shipments are sent signature required

☐ 2nd Day Delivery via Federal Express® is available for \$12, Next Day Delivery only \$15. (any order up to 20 pounds.)
Orders over \$300 must add insurance.

BRIWALL

P.O. Box 129/58 Noble Street

Kutztown, PA 19530 Order lines are open 24 hours (Briwallians are in 10-7 EST) Store hours: Monday - Friday 9AM-6PM, Saturday 9AM-12Noon

Circle 132 on Reader Service card

From p. 18. separate part. You then reassemble the entire object at the end. This works, but it takes some time.

In another vein, Imagine's quadview is very versatile. By simply clicking on each of the four views, you can instantly make the image expand to fill the screen. The "fourth" view in hidden-line perspective is wonderful. There are, however, a few things about it that are hard to get used to. One minor aggravation is that the orientation of the x, y and z axes is not standard. Geometry classes and 3-D programs almost invariably have x as the horizontal axis, y as the vertical axis and z as the depth axis. Imagine makes z the vertical axis and y the depth axis. You just have to become accustomed to this variation on the norm.

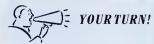
With regard to the other three views, Imagine's tri-view is also a bit difficult to get used to if you're coming from the Sculpt camp. In general, most 3-D model-editing programs allow you to work in three views in isometric, non-hidden line perspective. It can, however, be quite difficult to work with. As your scene becomes more and more complex, you can easily lose track of where you are, and quite often the lines on the screen can play tricks on you.

Sculpt provides both a place marker and a secondary pointer to help keep track of things as you work. It also allows you to work on a limited area without other background or foreground objects getting in your way. With Imagine, however, all of the three views are to infinity, so that the whole object may appear big as life in one view, but be completely out of the other two views.

There are times when seeing to infinity in a view might be valuable—if you had a long row of small things to line up, for example—but in most cases, a more limited view is preferable. It would be ideal if you could toggle between the two.

Imagine does have a Hide Points mode that addresses the problem of confusion of overlapping objects, but you first have to zoom way out and hide everything so that all three of your views will be clear of other points. After editing that small area, if you then want to work on some other confined region that is now hidden, you must reveal all the points, zoom out, and hide everything again.

Much as I gripe about these few things, Imagine is on the whole the most comprehensive 3-D program I have yet seen for the Amiga. With many of its difficulties, it is simply a matter of getting used to a new way of doing things. In addition, it's nice to know that Imagine is a living, breath-



So far, I have found that Imagine is a major improvement over Turbo Silver in the areas of user interface and animation support. It retains Turbo Silver's superb control over surface characteristics and beautiful rendering capabilities. The only remaining weakness is the documentation, which is still not as good as it should be for a product of this complexity. Impulse somewhat makes up for this by providing very good telephone support.

Overall, I am very impressed with Imagine, and I relish every opportunity I have to work and play with it. Fred Petty Florissant, Missouri

ing program (unlike Sculpt) and that Impulse is firmly behind the Amiga and will support it with upgrades for some time to come. Imagine is a great new member of my 3-D team, and I have a feeling that there is yet a lot more for me to discover here.

IMAGEFINDER

One picture is worth a thousand instructions.

By Michael Hanish

ANYONE WHO WORKS with Amiga graphics in any way has probably at one time or another been desperate to find where, among all his storage disks, is that one picture he needs. ImageFinder, a specialized database for indexing and sorting pictures, is designed for just such an occasion.

ImageFinder (\$65), from Zardoz Software, analyzes any Amiga bit-mapped graphic file you throw at it, in any resolution or screen format and at any depth from I to 24 bit planes—even a specified frame of an animation. It will sift through a list of directories and/or disks and give you a neatly displayed visual database (index), with a small thumbnail icon for each image. With the database open, you can sort the pictures by any num-

ber of criteria, display the full image (using the viewer program provided), and multitask with a paint or imageprocessing program. Virtually all the parameters of the program's operation are user configurable.

You can load ImageFinder from Workbench or configure it within your startup sequence for execution during the initial boot. It resides politely in the background until you activate it with a hot-key combination. When you select one of the thumbnails on the main, or Browser screen, the image's "vital statistics" are displayed in the parameter boxes at the top of the screen. These include file size and format, depth in bit planes, date created, color-sorting information and comment. (You can append a comment to a graphic file, however, only by using the AmigaDOS Filenote command. I would prefer to do it from within the program.)

GETTING AROUND

Using one of two configurable hot-key combinations, you can invoke a number of other quick and useful actions directly from ImageFinder's Browser screen. If you press the Shift key and click on a thumbnail image, Image-Finder displays the corresponding full-size picture—as long as it is present within the system. ImageFinder



Your images cannot hide from ImageFinder.

includes a fast and compact display program called "IView" specifically for this purpose. Other hot-key combinations bring the Browser window to the front or insert the name of the currently selected file into another program's open requester.

Creating an index involves only a few steps. First, set up a scan list of all the directories and/or volumes for search and analysis via two simple requesters. Then, give the index a name, path location, and parameters (size of

Let's talk more about deals you can't refuse...

I'm gonna keep taking care of you and your Amiga. So you check out the price of something you need with the other MOBs (*Mail Order Businesses*) and see what they gotta say. Then you give me a call. I'll beat the other MOBs best advertised price in this magazine, or I'm gonna send you a check for \$5.* How can you refuse?



Thousands
of Amiga
Products in
Stock and
Ready to Ship.

Featuring these manufacturers: (along with hundreds of others too numerous to list) Abacus • Accolade • Addison Wesley • Applied Engineering • Artworx • ASDG • B.E.S.T. • Broderbund • California Access • CSA • Data East • Davidson & Assoc. • Digital Creations • Disney • Dr. T's • Electric Zoo • Electronic Arts • Expansion Systems • Free Spirit • FTL • GVP • Gold Disk • Golden Image • Gravis • ICD • IVS • Magnavox • Mediagenic • Microbotics • Microprose • Migraph • New Horizons • Newtek • Origin Software • OXXI • Passport Designs • Practical Solutions • Progressive • Psynogis • Pulsar Quantum • Readysoft • Sharp Soft Logik • Strategic Studies • Sunrize Industries • Supra Corporation • US Robotics • Wordperfect Corp. • Zuma Grôup

Call today for a FREE catalog.

HOW TO ORDER:
<u>Orders only:</u> 1-800-438-2883
FAX: 1-619-274-2440
15% (*15/min. restocking fee on rectoded items only)
<u>Price quotessy</u> technical support:
1-619-274-1253
8am-5pm PST Monday-Friday

· Committed to Value Since 1985 ·

COATS

P.O. Box 171466
San Diego, CA 92197

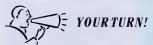
Circle 248 on Reader Service card

thumbnail, reduction method, number of colors). The scan begins automatically and continues until ImageFinder searches and analyzes all the specified locations—or until aborted. You can add to or delete images from an index with the same ease.

The time an analysis takes depends on the thumbnail parameters, the size and complexity of the file, and whether or not you have an accelerated system. From my hard disk, I fed ImageFinder a directory of eleven pictures of mixed format, complexity, and number of colors, and it took 25 minutes to build an index using the stock processor. The same process took about five minutes when the system was in 68030 mode. The program certainly does not feel sluggish in any way; it just benefits greatly from an accelerator.

Sorting is a straightforward process. The program sorts for two distinct purposes: to set the order in which the thumbnails are displayed, or to select a smaller group of images from the index. You control the sort through three sort requesters (one each for sort by file information, picture specifications, or color). This, by the way, happens at blinding speed.

ImageFinder has an ARexx port and is able to launch commands through a simple selection from a pull-down menu. This makes it quite feasible to use the program as the visual front end for more complex and



Once in a great while, a program comes along that fulfills its promise—and then some. ImageFinder is a most extraordinarily flexible and ingenious program that removes the drudgery and disorder from dealing with picture files. It is visually interesting and fun to use, as well.

Barry Voroba Minneapolis, Minn.

less graphically oriented applications, such as catalogs or information services.

The program comes on one nonprotected disk, installs easily on a hard disk, and works smoothly under Workbench 2.0. The manual is excellent, explaining the program's setup and functions clearly and thoroughly. It not only tells you what the program can do and how to do it, but it also gives pros and cons for choosing different options. A good index would be very helpful, however. When I came across a couple of things in the program that didn't seem clear in the manual, I got quick and direct help from the company's technical support.

I wholeheartedly recommend ImageFinder to anyone who works with graphics. It not only successfully tracks stored images, but working with it is like using a tool that is so well designed you forget you are holding it.

TRANSWRITE

OUICKWRITE

For turning a phrase or two. . .

By Loren Lovhaug, with Frank Hudson

WHERE IS IT written that decent word-processing software has to be expensive or require a computer whose characteristics are measured in megabytes and MIPS? TransWrite (\$69.95), the latest upgrade of Transcript from *Gold Disk*, and *New Horizons*' QuickWrite (\$75), modeled after ProWrite, are out to prove that you can get good productivity value for small change.

WHERE'S THE CATCH?

Any savvy consumer would naturally be curious about what features might be omitted in exchange for the low cost of each package. While both contain the basic text-editing features, some of the usual Amiga word-processing features are missing. Neither of these text-based programs contains graphics options to print bitmapped Amiga screen fonts or to include IFF pictures within documents.

Besides the absent graphics options, your choice of fonts is limited to those accessible through Preferences, which means no support for proportional fonts like those found in laser printers. Both programs, however, do a good job of controlling the various pitches of fixed-spaced draft and near-letter-quality modes found in dot-matrix printers. Unfortunately, neither allows complex formatting, such as multiple columns of text, footnotes, or interactive table editing.

Because neither TransWrite nor QuickWrite are burdened with lots of bells and whistles, both products run well on modest Amiga systems (512K). They do not require hard disks; in fact, since each comes on a Workbench disk, you can use them on a single-drive Amiga. These products are excellent candidates for multitasking with other applications, especially (by design) with Professional Page (Gold Disk). In addition, because they are text-based rather than graphics-based, it's quick and easy to enter text, even into the middle of large documents with multiple tasks running on an unexpanded Amiga 500.

PARTING COMPANY

Despite all of their similarities, TransWrite and QuickWrite are two very divergent products. The key differences lie in their interfaces and approaches to formatting documents. TransWrite is a post-formatted word processor. This means that you tell TransWrite how to control the appearance of your document by adding short mnemonic codes that stand for various formatting directives (e.g., LM for left margin or JR for right justification).

These formatting directives do not affect the on-screen appearance of the text until you print your document (or review it in Preview mode). What you see on screen as you enter and edit text are simply your paragraphs with the text wrapping to the next line unless you signal the end of a paragraph (by pressing the Return key) or reach the right edge of the window. If you resize the window, the text is then automatically adjusted so that each line wraps at the right edge of the window.

TransWrite shows text attributes such as boldface, italics, and underlining on the screen. There is also a noneditable, but fast and accurate, screen Preview mode that quickly lets you see how your document will look when printed. One other nice addition is a scrollable, formatting-codes requester that reminds you of the purpose of each formatting code. This allows you to select and insert a code at the beginning of a paragraph by clicking on that directive with the mouse.

QuickWrite, on the other hand, employs a more contemporary approach: When you enter text, the program formats it as you type according to the margins and justification settings currently in effect. You can alter settings via conventional ruler gadgets, >

PRODUCTIVITY

Pagestream 2.1	Pelikan Press
Pro Write94	Superbase IV 299
Pro Page 2.0 169	All in One 51.95
Desktop Budget 44	X-Cad Professional159
Advantage 119	Can Do
Office	Deluxe Print II 50.95
Structured Clip Art 39	Showmaker CALL
Compugraphic Fonts 119 Softclips People, Classics . 49	ScreenmakerCALL Wordperfect155

MEMORY EXPANSION

.....\$109 1 X 4 Sims.

Supra 512k for A500 59 GVP Ram 8 CALL CITIZEN PRINTERS GSX140, 24 pin...\$289 GSX200, 9 pin ...\$169 Color Option Available

GRAPHICS & VIDEO

\$89 Imagine

.......88

3000 memory upgrade . CALL

Photon Paint

Pixel 30

Pro Draw 2.0

Sharp JX-100 Scanner.

Scala.....CALL

Spectra Color CALL Turbo Silver 59

Video Fonts 2 64

.....39

......147

.52

129

689

Baseboard Ok

Amigavision

Animagic Art Department .

Supra 8mb board w/2mbCALL

N.J.'s Premier Amiga Dealer!

AUTHORIZED AMIGA SALES & SERVICE CENTER

Call for current price quotes & latest releases! Many more items in stock at the lowest prices!

COLDENITA A CE ®

GOLDENINIAGE
Master 3A-1
Hand Scanner with touch-up, high resolution, large scanning width\$265
Optical Mouse\$50
Opto Mechanical Mouse\$36
Amiga RC-2000 8 mg memory bd. for A2000
Amiga RC-500
1-year warranty on all Golden Image Products

HARDWARE

Flicker Fixer	
Ham-E Chroma Key	
Data Flyer 500 SCSI Interface A-500 .	\$149
Mega Midget Racer 33 MHZ	\$699

SY	'QU	E	ST						
44	mg	٠	Removable	Drive		 		\$449	

At Once 259 DC TV	\$395 AD Speed 215
BODEGA BAY	
Monitors	Genlocks
NEC Multisync 3D\$599	SuperGen
Seiko CM 1440 565	SuperGen 2000s 1349
Seiko CM 1450 689	MagniGen

Flicker Free Video . . . CALL Videomaster 1039 MISCELL ANEOUS

Scanlock 769

Flicker Fixer 239

Amax II	Keyboard Skins
Amtrack	500/2000/3000 17.49
Apro Draw 11	Mouse Mat 7
Arexx 28.95	Perfect Sound 69
AudioMaster364	Quarterback 39.95
Bars & Pipes Pro 224	Quarterback Tools 52
Cross DOS 25.95	SAS/Lattice C 5.1 194
ECE Mid 500/2000 \$49	Sound Source CALL
JSTK Power Play9	Soundmaster CALL
Tiger Cub65	Your Family Tree 43

EYE OF THE BEHOLDER

 Disney Animator
 .97

 Deluxe Paint 3
 .89

 Digimate 3
 .23

& explosive sound create intense face-to-face





ENTERTAINMENT

Armour-Gedden\$28	Dungeon Master 2 CALL	Mon. Night Football 3
Awesome	Falcon \$31	PGA Tour Golf3
	Finest Hour 37	
	F-19 Stealth 37	
Centurian CALL	Flight of Intruder37	Shadow of Beast 2 \$3'
Continuum CALL	Gun Boat	Speed Ball 2 CALI
	Killing Cloud CALL	
Dragons' Lair 2 40	Lemmings31	Wrath of Demon 3
We Carry F	uronean Imports &	Magazines.

Many More Titles in Stock. New Arrivals Daily!
CD TV TITLES NOW AVAILABLE



FLIGHT TRAINER™

Experience white knuckle flying thrills. More aircraft, new terrain, Flying Insights™ audio tape, on-screen flight school. FREE CAP!

Enhance your Amiga Systems with GVP's Outstanding Quality

& Performance

Super

ricing.



THE ICD ADVANTAGE New From ICD!

AdSCSI 2000

Hard drive interface v unmatched speed and flexibility.

AdSCSI 2080

Hard drive interface with up to 8 megs of FAST RAM.

AdSpeed

Best overall performance of any accelerator in its price range.

AdIDE

Smallest Amiga hard drive interface made. For IDE (AT) drives.

Flicker Free Video

Eliminates interlace flicker for any Amiga computer.

Novia 20i

20mb hard drive. Mounts inside A500

SPECIAL!

AD RAM 540 for A500 şgg

Call for Chip Prices

IS YOUR AMIGA SICK? Manta is a Full Amiga Service Center

We have the parts to put you back on track: · Rom Chips · Fatter Agnus · Drives

· Keyboards · Power Supplies

GREAT VALLEY PRODUCTS INC.

Optical Drives: Removable Media Accelerators: 68030 22 MHZ • 33 MHZ • 50 MHZ Series II Controllers • A500 HD 42 • 52 • 100 mg NOW AVAILABLE: 22-33 MHZ 68030 & SCSI

Manta carries the full line of GVP products!

HARD DRIVE SPECIALS



All Supra Products Available for Your Amiga. Call!

A500	A2000				
Supra RAM 500 RX Low Price 20 MB 500 XP w/½ MG \$419 40 MB 500 XP w/½ MG \$489 52 MB 500 XP w/½ MG \$549 105 MB 500 XP w/½ MG \$789	40 MB Supra Drive				
MODEMS —					

Supra Modem 2400 Plus

FAX:

(908) 542-3654

IN N.J. Call:

(908) 542-1251

MNP, V.42 bits\$165

ORDER TOLL-FREE 00-477-7706 Walk-in Traffic Welcome! \$99 115 Route 35 Eatontown, NJ

2400 Bd External

07724 OPEN 7 DAYS

Terms: VISAMC, Discover, certified checks and money orders welcome. School & Corporate Purchase accepted, Most items shipped 12 business days. Returns — all items returned must have RNA# before returning. Detective products exchanged for some item only. Hardware frens will be replaced or repaired. All returned items subject to reduction [6e. Shipping non-redundable: Call for complete details. Amiga computers sold to whale in traffic only. All prices subject to change without notice. Prices may differ in retail location. Software Concepts, Estontown. Not responsible for hypagenibile errors.

-DPS-**PERSONAL**

Finally, a Low End TBC Solution. · Fits inside an Amiga · Full NTSC and SVHS • Full Frame Storage • Fully compatible with all VCR's & NewTek's Video Toaster · Genlocks to any stable video source. Call!

Video Toaster

Let MANTA upgrade your Amiga system to take full advantage of NewTek's Video Toaster... • GVP Accelerator Boards 28-50 MHZ • Memory Upgrades • Hard Drive Packages • Removable Media • T.B.C. Training Tapes...

MANTA's video consultants will tailor a package for your needs

Call for best package prices.



QuickWrite helps keep your place in time.

pull-down menus, or keyboard

As with TransWrite, QuickWrite displays text attributes such as bold-face and italics on screen. Unfortunately, there does not seem to be any way to change text character pitch from inside a QuickWrite document, so you cannot mix pitches within a document.

Unlike TransWrite, page breaks are visible while you edit your text, as are headers and footers. Again, these fac-

tors make QuickWrite quite a bit easier to learn and use than TransWrite, because all of your text appears the same on screen as it does on paper.

Although TransWrite is more difficult to learn and use for traditional text formatting and word processing, some advanced and specialized users may prefer it. Despite its spartan appearance, TransWrite has a number of specialty features that make it ideal as a preproduction tool for importing, manipulating, and cleaning up text taken from other sources. For instance, TransWrite's method for dealing with carriage returns and end-ofline characters (a constant scourge of telecommunications and MS-DOS file exchange) is the best found in any Amiga application.

TransWrite's external spell-checking module, which takes advantage of the Amiga's multitasking ability, is not only capable of checking documents on screen (a "real-time," as-you-type option), but also batch-checks files on disk. The program accepts technical or proprietary terms as corrections during a spelling check, although the



Your wishes are TransWrite's commands.

dictionary does not recognize common contractions.

TransWrite features mail merge, file encryption and decryption for security purposes, and a complete indexing system. Search-and-replace operations are quick—a typical advantage of post-formatted word processors—because the document does not need to be reformatted after each replacement.

Another interesting feature, the automatic text-translation facility, lets ►

List of Advertisers

Reader	295	Aamiga Warehouse, 94	287	Memory World, 95
Service	115	Amazing Computers Southeast, 95	178	Michtron, 95
	32	American Liquid Light, 82	95	Micro-Systems Software, Inc., 41
Number	*	AmigaWorld	89	Montgomery Grant, 83-85
		Catalog, 64–67	297	Mr. Hardware, 95
	285	Black Belt Systems, 43	38	New Horizons Software, 9
	132	Briwall, 74-75	78	New Horizons Software, 27
	*	Briwall, 88	102	NewTek, Inc., CII
	116	California Dreams, 61	119	NewTek, Inc., CIV
	83	Coast to Coast Technologies, 71	187	Precision Inc., 29
	313	Commodore, 87	310	Psygnosis, 49
	148	Computability, 62-63	191	RGB Computer & Video, 16
	253	Computer Basics, 89	248	Roger Coats, 77
	199	Creative Computers, 52-57	275	Safe Harbor, 68
	398	DevWare, Inc., 92-93	179	Showline Video, 45
	28	Digital Creations, 35	238	Sideline Software, 70
	29	Digital Creations, 37	66	Sir-Tech Software, Inc., 60
	65	Digital Process Systems, Inc., 2	340	SMC Software Publishers, 94
	111	GEnie Information Services, 69	305	Software Hut, 94
	150	Gold Disk, Inc., 1	261	Software Hut, 95
	164	Grapevine Group, Inc., The, 90	226	Software Support Int'l, 91
245	, 127	Great Valley Products, Inc., 4	3	SoftWood, Inc., 17
77	7, 201	Great Valley Products, Inc., 5	141	Spectrum Holobyte, 73
10	06, 51	Great Valley Products, Inc., 7	157	Sunrize Industries, 39
62	2, 145	Great Valley Products, Inc., 11	*	Supra Corp., 19
26	55, <i>36</i>	Great Valley Products, Inc., 13	61	The AAmiga Center, 95
	110	Hitachi Denshi America, Inc., 18	134	The Software Shop, 81
	234	ICD, Inc., 51	346	Virtual Realities Laboratory, 72
	185	Interplay Productions, 59	304	Visionsoft, 95
	292	Joe's First Company, Inc., 88	16	Vortex Computersysteme GmbH,
	175	Manta, 79	225	Walt Disney Computer Software,
	336	Memory World, 50		

FV

If you have any questions or concerns about advertisers in AmigaWorld, please contact: Margot L. Swanson, Customer Service Representative, AmigaWorld Magazine, 80 Elm Street, Peterborough, NH 03458. As a service to its readers, AmigaWorld will periodically publish the names of companies who are having difficulties meeting their customer obligations or who have gone out of business. Through our customer service representative, AmigaWorld assists readers with problems they may have with advertisers. However, AmigaWorld does not assume any liability for advertiser's claims. Readers are advised to contact AmigaWorld before dealing with these companies: Micro Computer Services; Computer Mart, C Ltd., and Ingenuity, Inc. are out of business.

This index is provided as an additional service. The publisher does not assume liability for errors or omissions.

* This advertiser prefers to be contacted directly

Subscription problems or address changes: Call 1-800-525-0643 (in CO, 1-303-447-9330) or write to AmigalWorld, Subscription Dept., PO Box 58804, Boulder, CO 80322-8804. Problems with advertisers: Send a description of the problem and your current address to: AmigalWorld, 80 Elm St., Peterborough, NH 03458, ATTN.: Margot L. Swanson, Customer Service Representative.

AW Shucks!

33 CIII Item: In last month's article, "The State of 3-D Art," the sidebar on p. 30 featured four screen photos: images rendered by each of the four 3-D packages we covered. Unfortunately, three of the photos were mispositioned with respect to the captions. The picture in the upper left belongs with the LightWave 3D caption, the upper-right photo was actually rendered by Imagine, and the lower-left image is 3D Professional's output. We apologize for the confusion.

Item: In our May review of Magneto/Optical Drives (p. 12), the price of the Ricoh MO9200E was erroneously stated to be \$1199. The list price is actually \$4199.



The Software Shop, Inc. Orders Only Call 1-800-752-0050

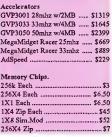
"Give us the chance to meet or beat any advertised price."



From Commodore

Call for pricing.

AMIGA 2000	Quantum	Quantum	Quantum	Quantum	Syquest	AMIGA 2000	Memory Expan		Memory Exp		pansion
HDrives	52LPS	105LPS	105MEG.	205MEG.	W/Cart		2MG.	4MG.	6MG.	8MG	
Harddrive Prices	\$289	\$499	\$399	\$809	\$569		\$219	\$299	\$379	\$46	
GVPA2000-HC/OSRS II	\$429	\$629	\$559	\$959	\$739		\$269	\$359	\$449	\$53	
GVPA2000HC8/0SRSII	\$479	\$679	\$609	\$999	\$783		\$199	\$289	\$379	\$45	
Hardframe 2000	\$439	\$629	\$559	\$959	\$729		\$299	\$389	\$489	\$57	
Supra Wordsync	\$389	\$599	\$499	\$929	\$682		\$209	\$299	\$369	\$44	
AddSCSI 2080-/8+0	\$449	\$669	\$569	\$989	\$748		\$209	\$289	\$369	\$44	
A500 SCSI HDrives	Q52LPS	Q105LPS	A500 ID1	E Internal H	Iardrives	Amiga 500 Memory	1MG.	2MG.	3MG.	4MC	
GVPA500HD8/0 SRSII	\$669	\$859	Teac40mg	Q52LPSA	Q105LPSA	Base Board	\$159	\$205	\$249	\$29	
Supra-500XP-512K	\$579	\$799	\$329	\$399	\$599	Adram 540	\$159	\$205	\$249	\$29	





Save on your Amiga Software & Hardware

CAD Home builder choice \$53 Home Buildr library \$32 Home builder Sculpt \$79 Home builder cad \$129 Intro Cad Plus \$99 Ultra Design \$269 X-CaddesignerFro \$215 X-CadDesignerII \$74

Database	
Desktop budget	\$46
Home Front	\$59
Organize	\$49
Project Master	\$129
Superbase pers. II	\$99
Superbase Pro. 3.0	\$219
Superbase 4	Call
DeskTon WordPr	nc.

Superbase 4Call	
DeskTop WordProc.	
Becker text\$92	
City Desk 2.0\$95	
Electronic Thesaurus\$34	
Excellence 2.0\$115	
Gold spell II\$30	
Gold Disk Office\$189	
Page setter II\$89	
Page stream 2.0\$199	
Page Stream fonts 1-15\$29	
Pen Ps1\$102	
Professional Page 2.0\$225	
Professional Draw\$125	
Pro-page template\$42	
Prowrite v3.01\$105	
Structured Clip Art\$39	
Super Clips\$22	
Wordperfect\$159	
Wplibrary\$79	

ŀ	Education
ŀ	Aesop's fables\$32
ļ	All about Americs\$35
ŀ	Animal kingdom\$32
ŀ	Decimal dungeon\$32
ı	Designasaurus \$32
ļ	Fraction action\$32
Į	Kinderama\$32
ľ	Math wizard\$35
ļ	Mavis beacon typing\$33
ŀ	Read-a-rama\$32
ŀ	Read & rhyme \$32
ı	Tales from Arabia\$32
I	WhereinEurpe.C.Sdiego\$35
ŀ	WhereintheU.S \$35
Ì	WhereinWorldC.S\$32
	Wordmaster \$32
	World Tour Canada\$30
	Worldtour Mid East\$29
	Fonts
	cg fonts\$129

Inter font

Kara fonts color\$50

Kara fonts Headline 2\$48

Kara fonts subheads\$48

Kara Anim font 1\$35

Kara Star Field Font\$35

Kara Anim Font 2

Type Fonts

Education



	3d options\$40
ı	3D Professional\$346
ľ	Amiga Vision\$99
ı	Animagic\$95
ı	Animate 3-D\$99
	Animation Studio\$111
	Animotion\$65
	Animation Titler\$59
	Art Dept. Pro \$159
	Broadcast Titler V.2.0 \$229
	Caligari\$159
	Can do\$99
	CanDo Pro Pack1\$29
	Deluxe Paint III\$102
	Deluxe print II\$59
	Deluxe video III\$100
	Design 3-D\$67
	Digi-Paint 3\$69

Digi View Gold 4.0	\$131
Imagine	\$229
Invision	\$109
Modeler 3d	\$64
Movie clips	
Movie setter	\$65
Page flipper fx	\$95
Pagerender 3-D	\$105
Pixmate	\$43
Pro Video Post	\$220
Scene Generator	\$29
Spectrocolor	Call
Title Page	
Tv-show 2.0	
The Director 2.0	
Tv Text Prof	
Videoeffects3d	
Videoscape3-d	
Videotitler 3d	
Vista Pro	
Zoetrope	
•	



Call for all Amiga line of computers

Hardware

ı	A2320 Video Enh\$249
ı	AdIDE Controller\$119
ı	AdSpeed\$249
ľ	Ae-datalink 2000 W/fax\$224
ì	Ae-datslink Exprs.W/fax \$209
	AE External Drive\$109
	AE 3.5External Dr.HD\$215
	Ae-power Supply\$92
	Air Drive External\$89
ļ	Amax II Emulator\$155
ı	A/B/C/D Switchbox\$39
	Copy Stand\$69
	Ergo Joystick\$17
	Golden Image Mouse\$39
	Golden Image Optical \$69
	Modem cable 2000/500 \$15
	Monitor Stand\$32
	Printer cable 2000/500\$15
	Baud Bandit level 5\$139
	Color Splitter\$120
	Ece Midi 1000\$52

Ece Midi 500/2000 \$52	Ba
Flicker fixer \$299	Ba
Future snd. A500/A2000 \$92	Co
Internal 3.5drive A2000 \$89	D-
Migraph Scanner \$349	De
Mini Gen \$210	Dr
Perfect sound V.3.0 \$75	Dr
Scanlock \$789	Dy
Sharp JX 100 Scanner \$789	H
Super Gen \$695	Ke
Supergen 2000S Call	M
Supra 2400bd internal \$149	Μt
Supra modern 2400bd \$119	Mı
USRobotics9600bd.HST \$669	Pro
Video Toaster \$1499	So
Video Toaster\$1499 Languages Utilities	Ti
	S
A/C basic \$129	
A/C fortran\$195	Ad
Arexx\$33	Su

Assem pro\$65
Benchmark c lib \$62
Bnchmark SrcLevDebug \$62
Benchmark iff library \$62
Benchmark C library \$62
Benchmark modula 2 \$128
Benchmark simplified \$62
Cross Dos 4.0 \$29
Cygnused Professional \$65
Data Tax \$52
Disk master 1.4 \$33
Disk mechanic\$59
Dos 2 dos\$35
Lattice Dev.System 5.1 \$209
Mac 2 Dos \$99
Power windows v2.5 \$58
Project D 2.0\$39
Quarterback 4.1\$45
QuarterBack tools\$55
Wrk Bench Mgmnt.2.0 \$31
Monitors

NEC 3D multisyne \$699 Sieko Cm1440 Monitor \$599 Zenith14*PlatCRT \$625 Printers \$625

Citizen 200GX	\$210
Citzen GSX140 Color	\$399
Star nx rainbow	\$225

Sound & Music



4-op deluxe	\$112
Audio Master 3	\$65
Audio master II	\$67

ack songbook	\$27
ars & Pipes	\$179
opyist II 3.0	\$179
-50	\$99
eluxe music	\$69
r T's Keyboard	\$160
r T's Midi Rec.Studio	\$47
ynamic studio	\$129
yper Chord	\$105
cs Level II	\$225
latrix 6	\$97
t-32	\$97
lusic-X	\$205
omidi studio	\$129
onix	\$51
ger Cub	
preadSheet	

Terms & Policy: TO ORDER BY FAX CALL: 1-508-799-9354 FOR PRODUCTS NOT

LISTED CALL:

1-508-756-6452

VIPProfessional\$65

\$97

PLEASE SEND ALL CORRE-SPONDENCE TO: THE SOFTWARE SHOP, INC. 22 FRONT ST. P.O. BOX 22 WORCESTER, MA 01614

PRICES TERMS, AVAILABILITY
ARE SUBJECT TO CHANGE
WITHOUT NOTICE.
POLICIES:

1-We accept Vis and Mastercard 2-Minimum Shipping \$6.00 3-COD charges \$5.50 4-Hardware Shipping 5%. 6-International Shipping 15% 7-APO & FPO 10% 8-2nd. day air Available 9-Next day air Available 10-Returns are subject to 15%

restocking fee.
11-Product must have RMA#
to be returned.

CALL FOR ENTERTAINMENT SOFTWARE.

Circle 134 on Reader Service card.

you define multiple translation tables for abbreviations for text or formatting controls. In essence, this feature works like a super batch search-andreplace mode, offering a great deal of potential for defining style sheets and shorthand text entry.

TransWrite is also the first Amiga word processor besides WordPerfect to handle a common nonAmiga wordprocessor format. It can import and export MS-DOS WordPerfect 4.2 and 5.1 files, as well as Amiga WordPerfect 4.1 files. While the WordPerfect files reside in TransWrite, they show little of the formatting they may have received in WordPerfect. Features that TransWrite does not support, such as table, graphics, and footnotes, are simply not shown at all, which prevents them from being unintentionally modified. There is, however, one serious design flaw to this approach. Although you cannot alter the Word-Perfect codes, you can accidentally and unintentionally delete them.

To QuickWrite's credit, it has a few unique features of its own, such as automatically inserting time and date information in a variety of predefined formats. It also has a special pagecount feature that allows you to automatically express page numbering in terms of the size of the entire document. For instance, the second page of a document would be expressed as "Page 2 of 10." In addition, Quick-Write includes a very easy-to-use mail-merge facility.

Oddly enough, when it comes to macro support, QuickWrite and Trans-Write swap roles somewhat. Quick-Write features a full ARexx port that gives it a great deal of power and potential-provided you take the time to learn how to program ARexx. Conversely, TransWrite's macro facility uses a simple record-and-playback scheme to assign key presses and command invocations (either Amiga key combinations or pull-down menu selections) to function keys. The record-and-playback scheme is much simpler, but is far less powerful than the ARexx implementation that QuickWrite utilizes.

THE FINAL WORD

In conclusion, both TransWrite and QuickWrite are low-cost, capable word processors that I can highly recommend, but to two entirely different sets of users. Those looking for a word-processing package that is straightforward, easy to use, and quick to handle traditional text-formatting chores, ought to choose Quick-Write. There is simply no better program for beginners or people with simple requirements who want to get up and running right away.

TransWrite, on the other hand, offers a great deal for telecommunicators, desktop publishers, editors and writers, because of its powerful capability to meet their unique needs. While only people who have had past experience with post-formatted word processors will truly like TransWrite's approach to document formatting, the package really comes into its own when serving as a writer's text editor, divorced from the printing tasks that most word processors are expected to handle.

True digital photography for your Amiga computer



Through a special arrangement with Quintar™ Co., Liquid Light is now offering the Bell & Howell CDI-IV™ color digital film recorder for use with all Amiga computer models. The CDI-IV offers true color capability for all your Amiga images including IFF and HAM. All you add is the film and the imagination. Whether you need high quality 35mm slides, instant prints, overhead transparencies or even instant slides the CDI-IV has you covered.

The CDI-IV is shipped to you complete with a 35mm camera, instant print camera, software and cables. Everything you need to produce stunning images is right in the box. It plugs into the serial port of your computer so you can install it in minutes.

The manufacturers suggested retail for this system is \$3,995, but for a limited time you can purchase the complete CDI-IV at an introductory price of only \$1,895. Quantities are limited and this price will last for just a short while.

So give us a call today, With the CDI-IV you'll see your images in a whole new light.

Liquid Light
Presentation Graphics Peripherals

To order call 213 618-0274

CDI-IV introductory price only \$1,895.

American Liquid Light, Inc., 2341 West 205th Street, Torrance, CA 90501 Tel.213 618-0274, Fax: 213 618-1982

Bell & Howell, Quintar Co. and CDI-IV are registered trademarks of Bell & Howell Quintar Company.

NU NUNSENSE - NO GIMMICKS - JUST EVERYDAY LOW PRICING. CUSTOMER TULL FREE TECHNICAL SUPPORT AND EXPERIENCED, COURTEOUS SERVICE! ALL YOU'VE GROWN TO EXPECT FROM MONTGUMERY GRANT! WE THANK YOU FOR YOUR SUPPORT!

FOR ORDERS AND INFORMATION IN USA & CANADA CALL 1(800) 759-6565

IMIE R

ami ga **WORLD** 6/91

ESTABLISHED

1967

Supra Corporation

500XP HARD DRIVES

512K RAM Expandable to 8MB

512K, 20MB\$379	2MB, 20MB\$439
512K, 40MB\$485	2MB, 40MB\$559
512K, 52MB\$529	2MB, 52MB\$579
512K, 105MB\$749	2MB,105MB\$819



SUPRA RAM 500RX (w/Pass through Bus Expandable to 8MB)

SUPRA



Works on all Amiga ® 2000 computers. Installs easily in any Amigs internal expansion slot. Made in USA

\$182 \$262 6MB 8MB SUPRA WORDSYNC

SUPRA RAM 500

512K EXPANSION for A-500

SUPRA 3.5" EXTERNAL DRIVE SUPRA MODEM 2400 EXTERNAL w/CABLE....\$99 SUPRA MODEM 2400 ZI INTERNAL.....\$114 SUPRA MODEM 2400 MNP.....\$145 SUPRA MODEM 2400 PLUS

w/MNP5, V.42 bis.....SUPRA MODEM 2400 Zi PLUS...... \$165\$159\$549 SUPRA MODEM 9600 PLUS

& CANADA CALL

18)692-0790

WRITE TO:

MONTGOMERY GRANT: MAIL ORDER OFPT. P.O. 80X 58 8ROOKLYN, NY, 11230 FAX #7186823372 / TELEX 422132 MGRANT

PENN STATION, MAIN CONCOURSE (Beneath Madison Sq. Garden) NYC, 10001 RETAIL OUTLET

Store Hrs: Mon-Wed, 9-7 / Thurs, 9-8 / FRI, 8-6 / SAT-CLOSED / SUN, 9:30-7 FOR CUSTOMER SERVICE & ORDER STATUS CALL: (718) 692-1148 CUSTOMER SERVICE HOURS: MON-THURS 9am-5pm/FRI 9am-4pm/SUN 10am-4pm

D B WSL

NO SURCHARGE FOR CREDIT CARD ORDERS WE INVITE CORPORATE AND EOUCATIONAL CUSTOMERS. OISCOUNTS FOR QUANTITY DRDERS. RUSH, 2nd DAY AND NEXT DAY AIR DELIVERY

CUSTOMER TOLL FREE TECHNICAL SUPPORT

GOLDEN IMAGE AMIGA 500/1000/2000 COMPATIBLE REPLACEMENT MOUSE.....

MASTER 3A-1 DISK DRIVE......\$85 MASTER 3A-1D DISK DRIVE......\$99 MASTER 5A-1 5.25" DISK DRIVE....\$149

AMIGA 500 Expansion Kit Master 3A-1 Disk Drive
 Golden Image 512K Expansion

GOLDEN IMAGE OPTICAL MOUSE.....\$49

GOLDEN IMAGE HANDSCANNER w/Migraph Touch-up Software



TOASTER

IT WILL CHANGE THE WAY YOU WORK WITH COMPUTERS AND VIDEO! **BUY IT NOW FOR LESS!**

with Clock, Calendar

PERSONALTBC.....

MANY OTHER TIME BASE CORRECTORS (TBC) AVAILABLE

GOSCH

TUTORIAL TAPES ON SALE!! **PRODUCTIONS**

FOR PRICE!

Our trained consultants are ready to customize the perfect desktop video/ computer system for you!

Internal **INSIDER II** Memory

for A-1000 \$289 OK exp. to 1.5MB.

MEGA CHIP 2000 Up to 2MB Chip RAM & 8MB Fast RAM for A-2000

BATT DISK-up to 2MB addi-tional RAM Disk & 9MB RAM available. Stores data even when computer is turned off

MULTISTART II-switch be-tween Kickstart 1.3 & 2.0 on an \$89 A-2000 with the keyboard

NEWTEK



DIGIVIEW GOLD 4.0



XETEC CD ROM

CDX-650E EXTERNAL \$689

CDX-650! INTERNAL \$589

XETEC FASTCARD PLUS.....\$239 XETEC MINI FASTCARD.....\$89

MEGAMIDGET **ECONOMY** (A-500, A-2000

25 MHz. \$539

MEGAMIDGET RACERS 25 MHz. (A-500, A-2000)

MEGAMIDGET RACER \$7 33MHz.(A-500, A-2000)

VIDEO CKAGE PANASONIC PV-1410 VIDEO CAMERA COMPLETE WITH 16mm. LENS w/IRIS

· COPYSTAND W/LIGHTS
· DIGIVIEW GOLD 4.0















WE CAN RECONFIGURE ANY OF OUR COMPUTER PKGS. TO YOUR SPECIFICATIONS. CALL FOR DETAILS!

RETAIL OUTLET

PENN STATION, MAIN CONCOURSE (Beneath Madison Sq. Garden) NYC, 10001 Store Hours: MON WED, 9-7 / THURS, 9-8 / FRI, 9-6 / SAT-CLOSEO SUN, 9:30-7

ESTABLISHED 1967

1084 RGB Monitor

AMIGA COMPATIBL PERIPHERALS, ACCESS

AIR DRIVE Internal Drive for A-2000\$89
AMIGA 1000 Memory, Parts
& AccessoriesAVAILABLE
AMIGA 1000 RF Adaptor\$29
AMIGA 1000 1200 Baud Modern (Volks)\$59
AMIGA 3000 32 Bit MemoryAVAILABLE
AMIGA 1.3 ROM (8850)\$39
AMIGA 1MB Fatter Agnus Chip (8372A)\$99
AMIGA 2000 Power Supply\$169
AMIGA Replecement Perte Available
A-MAX Emulator II\$129

A-MAX II PACKAGE

A-MAX Emulator II Fujitsu Mac Compatible \$279 Drive for A-MAX

Available

APPLIED ENGINEERING

MAC	ROMS	CALL
ATon PC/A	ce T Emulator 2000 Adaptor fo	\$259

1.52MB High Density Drive	\$199
APPLIED ENGINEERING	
Heavy Duty Power Supply for A-500	\$87
BOMAC Towar (A-2000)	\$239
CALIFORNIA ACCESS CA-880	
3.5" DISK DRIVE	\$95
3.5" DISK DRIVE	\$469 \$105
3.5" DISK DRIVE	\$469 \$105 \$389
3.5" DISK DRIVE	\$469 \$105 \$389

HEWLETT PACKARD

HP DESKJET 500.....\$499.95 HP LASERJET IIP w/Toner.....\$899.95

HP PAINTJET	5919.95			
HP LASERJET III w/Toner	\$1599			
HP PAINTJET XL w/Toner	\$1849			
PANASONIC				
KXP-1180\$159.95	KXP-1124\$259.95			
KXP-1191\$234.95	KXP-1624\$369.95			
KXP-1123	\$239.95			
CITIZEN	EPSON			
00V 440 0000 0F	LV 010 0100 05			

CHIZEN	EPSON	
GSX-140\$289.95	LX-810\$189.95	
GSX-145 (Wide	FX-850\$329.95	
Carriage)\$395.95	LQ-510\$279.95	
200GX\$169.95	COMMODORE	
Color Option KitsCALL	MPS-1270 Iniget\$159.95	

STAR

NX-1001.....\$155.95 NX-2420.....\$279.95 NX-1020 R......\$195.95 NX-2420 R...\$299.95

MONITOR SPECIALS

NEC MULTISYN	C IIID		\$609
NEC MULTISYN	C IIIDS		\$669
SEIKO 1440	\$549	SEIKO 1450	\$669
SEIKO 1445	95.00	SONY 1304	9999



BODEGA BAY

By CALIFORNIA ACCESS Expansion Consols - Turn your AMIGA 500 into a A-2000 Compatible CALL FOR LOW PRICE!

FLICKER	FIXE	R		\$235
FLICKER	FIXER	PAL		\$269
FLICKER	FIXER D	EB-200	00	\$99
FLICKER	FIXERG	ENLO	CK OPTION	\$49
FUJITSU	Mac Co	mpatibl	e	
Drive for	A-MAX	NEW		\$169

GENLOCKS

AMIGEN	\$95
MINIGEN	\$188
MINIGEN PAL	\$229
SUPERGEN	\$599
SUPER GEN 2000S	\$1339
VIDTECH VIDEOMASTER	\$1049
VIDTECH SCANLOCK	CALL

ı	TIBITEOTI GOTTILEGGIAMMINIMINI	TOT YELD
ľ	LIVE/ A-2000	
	SHARP JX-100 Color Scanner	
	w/Software & Cables	\$699
	SHARP JX 300	
	STEREO SPEAKERS	\$34



BASEBOARD

MEMORY EXPANSION FOR A-500 (USES A-501 EXPANSION SLOT)

2MB DAUGHTER BOARD AVAILABLE

DATA FLYER LOW COST SCSI INTERFACE

A-2000.....\$85 A-500.....\$145

FRAME GRABBER



w/Cable......\$99 BAUD BANDIT 2400 w/MNP Level 5..\$127

VIDEO BLENDER.....\$1139

MICRO



BIGFOOT

Joystick/mouse Switch

Printer Buffer Cuts graphics printing time by 70%

AMIGA 500 & AMIGA 2000 COMPATIBLE HARN NRIVE PACKAGES

INCLU						SCS	CO	NTRO	LLER	S			
SOFTW		SUPRA WORD- SYNC A-2000	TRUMP CARD 2000 Exp. to 4MB	TRUMP CARO 2000 Pro exp. to 4MB	RAPID ACCESS TURBO (A-2000)	GVP Series II HC A-2000	GVP Senes II HC8/0 A-2000	AdSCSI 2080 A 2000 (exp. to 8MB)	OATA FLYER A-500	TRUMP CARD A500 (exp.to 4MB)	TRUMP CARD 500 Pro Exp. to 4MB	RAPIO ACCESS TURBO 500 (A-500) exp. to 8MB	XETEC FAST TRAK A500/A1000 (exp. to 4MB)
SEAGATE DRIVE	ORIVE PRICE	⁵ 109	⁵ 119	⁵ 189	⁵ 229	⁵ 149	^{\$} 195	^{\$} 169	^{\$} 145	⁵ 189	5239	^{\$} 269	⁵ 299
ST-157N-1 (49MB,28MS)	^{\$} 235	5319	5339	⁵ 419	\$459	§379	^{\$} 419	\$399	⁵ 379	^{\$} 419	⁵ 469	⁵ 499	⁵ 534
ST-1096N (80MB.3.5°)	⁵ 347	5439	⁵ 449	§529	§575	5489	§525	⁵ 509	^{\$} 489	⁵ 519	§579	⁵ 615	⁵ 645
QUANTUM (40MB)	\$245	s339	§349	⁵ 419	⁵ 469	5389	s425	⁵ 415	5389	^{\$} 425	s485	\$509	§539
QUANTUM (52M8,Low Profile)	^{\$} 265	s359	⁵ 369	⁵ 439	⁵ 489	^{\$} 409	\$445	⁵ 435	⁵ 409	⁵ 445	\$505	\$529	\$559
QUANTUM (105MB)	⁵ 369	s469	§479	§549	§595	\$515	\$555	§535	s509	⁵ 549	\$599	§635	§665
QUANTUM (170MB)	^{\$} 659	^{\$} 759	\$769	⁵ 839	5879	⁵ 798	⁵ 845	\$879	\$799	⁵ 839	5889	\$919	\$955
QUANTUM (210MB)	⁵ 739	⁵ 839	\$849	⁵ 899	\$959	s869	⁵ 899	^{\$} 905	\$879	5899	5949	5999	⁵ 1035

SEAGATE ST-277N-1.....\$285 Hard Drives! SEAGATE ST-177N.....\$319

And More SEAGATE ST-125N-1 (20MB).................\$189 NEW SEAGATE ST-1186 (186MB, 3.5"),\$659 QUANTUM 105MB Low Profile.....\$449 SYQUEST 44MB Removable w/CART..\$499



GVF

AMIGA WORLD 6/91

NEW! SERIES II

2000/22 MHz./1 MB Expandable to 13MB/68882/SCSI 2000/33MHz./4MB Expandable

...LOW, LOW PRICES! to 16MB/68882/SCSI SCSI HARD DRIVE PKGS, AVAILABLE, CALL FOR LOW PRICES

GVP 3001 Kit (28Mhz.) w/68030, 4MB, 68882.....\$1379 GVP 3033 Kit (33 MHz.) w/68030, 4MB, 68882.... GVP 3050 Kit (50Mhz.) w/68030, 4MB Exp. to 32MB, 68882.....\$2249



AD-RAM 2080 MEMORY **EXPANSION** FOR A-2000

(OK EXPANDABLE TO 8MB)

AD-SPEED ACCELLERATOR AMIGA COMPUTERS (14.3 MHz)

\$305 NEW NOVIA 201 20MB ...\$109 Internal Drive for A-500

AD-RAM 540 MEMORY EXPANSION FOR A-500 0K......\$99 (Expandable to 4MB) AdSCSI 2000...\$129 AdSCSI 2080 exp. to 8MB....\$169

VIOEO SOFTWARE TEXT ANIMATOR \$29.95 LL ANIMATOR \$87.95 SHEY ANIMATION STUDIO \$99.95 NWE SETTER \$64.95

SCULPT 4D JI...
SCULPT 4D...
TURBO SILVER 3.0...
VIDEOSCAPÉ 3D FONTS

\$139 96 \$69 96 \$69 96 \$25 95 \$59 96 \$20 96 MASTERPIECE FONTS
MASTERPIECE SO FONTS
PAGESTREAM FONTS
ZUMA FONTS (1-5) Each One GRAPHIC PROGRAMS 3D PROFESSIONAL PAL)
3D PROFESSIONAL (PAL)
4D PROFESSIONAL (PAL)
4

FRACTAL FRO

IMAGINE

MATH VISION

MODELER 3D

MY PAINT 2.9

PAGE RENDER 3D

PHOTON PAINT

FIXEL 3D

WHATE PIXEL 30
PIXMATE
PRO VIDEO GOLD.
PRO VIDEO POST
PRO MOTION
SCALA.
SCULPT 30 XL
TY TEXT PRO
VISTA

DRAWING AEGIS DRAW 2000..... DECK BUILDERS CAD HOME BUILDERS CAD INTRO CAD INTRO CAD PLUS

SOFTWARE COMMUNICATIONS

UTILITY SOFTWARE AMI ALIGNMENT KIT AM ALIGNMENT KIT B A O CROSS DOS VER IV OCCTOR AM. DOS TO DOS DU O E EXPRESS CO PY VER.1 5. DI MELIFER MAC 2 DOS VER I 1 QUARTERBACK 4 2 QUARTERBACK TOOLS., RAW COPY SUPERBACK

MUSIC SOFTWARE AUDIDMASTERIA.... BARS AND PIPES HYPER CORD HYPER OF MIDIX
MUSIC X Jr
PIXOUND TIGER CUB ...

\$37.95 \$83.95 \$169.00 PRO PAGE 13 \$158.95 SCRIBBLE PLATINUM SUPERBASE PERSONAL SUPERBASE PROFESSIONAL

MAGAZINES AMIGA ACTION AMIGA COMPUTING AMIGA FORMAT AMIGA USE IT

PROGRAMMING LANGUAGES A C FORTRAN ANIGAVISION, ARREX

GAMES & ENTERTAINMENT EN I ENTAL

856 ATTACK SUB

A 10 TANK KILLER
AWESOME
BARDS TALE
BA

DUNIANCE ACADEMY BLITZAREIG BLOCKOUT BLOOD MONEY CENTERFOLD SOUARES CHACOS STRIKES BACK. CHECKMATE CHESSMASTER 2100 DISTANT ARMIES DOMINOES DUBLE DRAZON II DOMINOES DOUBLE DRAGON U DRAGON FORCE

\$35.50 \$30.05 \$73.35 \$73.35 \$14.95 \$14.95 \$32.95 \$30.95 \$43.95 \$31.95 \$31.95 \$31.95 \$31.95 \$31.95 \$31.95 DRAKKHEN
DUCKS TALE QUEST.
DUNGEON MASTER II
EARL WEAVER BASEBALL
F 16 COMBAT PROT
F-19 STEALTH FIGHTER
F 29 RETALIATOR F 29 RETALIATOR FAI CON FEMME FATALE FIRE BRIGADE FIRE POWER FI IGHT SIMULALOR II GOLD RUSH GRETSKY HOCKEY ORIDIRONW DATA DISK.

\$87 95 \$199.00 GRIDIRON W DATA DISK...
CUMSHIP
MARDBALL Z...
HARD GRIVIN...
HE RO'S QUEST
ISINITI ORRED DOCIOBER
IMMORTAL.
HIND'S SOL
HILDEL DOCIOBER
IRON LORD
IT CAME I HOM THE PERIOD
IT CAME I HOM THE PERIOD
IT CAME I HOM THE PERIOD JACK NICKLALS GOLF KILLING GAMESHOW KINGS GLEST KINGS GLEST KINGS GLEST

K MS O LEST
VIOLED TO THE METERS OF THE METE RED STORM REND RISK SCHABEL STORM SPACE SHADOW OF THE BEAST IN SHADOW OF THE BEAST IN SHADOW OF THE BEAST IN SHATE SERVICE SPACE ACE. SPACE OUEST II SPACE QUEST III SPACE QUEST III SPACE QUEST III SPACE QUEST III SPACE Q

SUPREMICE:
SWORD OF SODEN
TEENAGE MOT IN NA TUTTLES.
TEEN ORWELL, IN FIG. USE.
TEEN ORWELL, IN FIG. USE.
TEEN ORWELL, IN FIG. USE.
TEEN OR SWORD SEAS.
TEEN OF SALL,
USE TO SA

AMIGA AMIGA 500 **AMIGA 2000** AMIGA 2000HD **AMIGA 2500**

ALL MODELS CALL

AMIGA 3000

PRICES SO LOW **WE ARE NOT** PERMITTED TO PRINT THEM

CDMMDDDRE CD-TV...CALL NEW

Amiga Peripherals & **Accessories in Stock!**

Order Hours: Mon-Thurs, 9am-7pm/Fri, 9am-6:30pm/ CLOSED Sat/Sun,9:30-6(ET) (718)692-0790 **OUTSIDE USA**

& CANADA CALL

FOR ORDERS AND INFORMATION IN **USA AND CANADA** 00465

WRITE TO:

Cerabled chack, Bank Check Money Orders, Approved P.O.s. Vira, Ministracut, Arnes, Opinse, Dines Cabo, Carrie Stanche,
COD's & Wire Transfers accepted. Please cate bolios submitting 2 O. Shorn catthed relocking suit was selected as a consistency of the control of the control

MONTGOMERY GRANT: MAIL ORDER DEPT. P.O. BOX 58 BROOKLYN, NY, 11230 FAX #7186923372 / TELEX 422132 MGRANT

NO SURCHARGE FOR CREDIT CARD ORDERS

ESTABLISHED 967



HELP KEY

Whether it's palette problems, sidecars or inexpensive graphic devices, Lou comes up with solutions.

By Louis R. Wallace

to alter the images so that each has a consistent palette.

puters with the proper MS-DOS hardware emulator).

PALETTE PITFALLS

Q: I've been working on a project in which I rendered a series of images in HAM mode using Sculpt 3D. I converted them all to 32-color mode using Deluxe Photolab, then imported them into Deluxe-Paint III to create an animation. The problem is that they do not all have the same palette! This makes the animation take on the color palette of the last-loaded frame, producing a useless animation. Could I have done anything differently while rendering that would have avoided this problem, or have I just wasted untold hours?

M. Sherbine Ridgecrest, Calif.

A: The problem obviously is that Sculpt created each frame with the best possible palette of colors and didn't use the same palette for each frame. Remember that while HAM mode allows a display that uses all 4096 colors at once, it does have its own palette of sixteen unique colors. These sixteen can be placed alongside each other without resorting to the hold-andmodify technique used for the other 4080 colors. During the creation of the image, Sculpt determines which sixteen colors will best serve the needs of the picture, and it creates the sixteencolor palette from that selection. Since you saved each image as a separate file, Sculpt repeated this process for each picture, resulting in images with different palettes. The reason this doesn't happen when you create an animation directly with Sculpt is because it determines the best palette for all the images and uses that palette for each frame.

No, your work isn't necessarily ruined. There are a couple of approaches to fixing the problem. One is to use The Animation Station (Progressive Peripherals & Software), which allows you to combine different animations or images into a single animation, optimizing the palette to one that will work best for all the images. Another is to use an image-processing program like Art Department Professional (ASDG)

RIDE IN A SIDECAR?

Q: We purchased the Amiga 1000 in 1985 and since that time we have been having an increasingly difficult time finding software for it. We have heard of a "sidecar" that can be used to update the A1000 so it will be more compatible with programs. Would this help us? If so, is it available? The programs we need to use are spreadsheets, graphing and mailing-list software, and even Lotus 123. What can we do?

S. Honeycutt Reno, Nevada

A: Whew! It's been a long time since I have heard of the Amiga Sidecar. This was a Commodore expansion box that was developed around 1986 to fulfill two functions. One was to serve as a RAM expansion box, and the other was to offer some form of IBM compatibility in hardware. The product, as far as I know, never shipped in the US, although it did in Canada. I don't believe it is possible to buy one any longer, unless you could find it used.

As for software compatibility, the A1000 is capable of running nearly every piece of software available for the Amiga line of computers. Of course, you must have the proper version of the operating system (usually 1.3), but that is available for the A1000 as well as the A500 and A2000. If you want to make your A1000 hardware more compatible with A2000 hardware products, you could add the Rejuvenator.

Most of the kinds of software you mentioned are available for the Amiga. If you can't find a dealer near you that carries Amiga software, take a look at the mail-order companies who advertise here in *AmigaWorld*. As for Lotus 123, it is an MS-DOS-based software package that is currently not available for the Amiga (although it can be used on Amiga 500, 2000 or 3000 com-

LOW-COST COLOR

Q: I have been experimenting with animation on my Amiga 500 and have become really impressed. Recently, however, a friend of mine showed me some very nice animations on his Mac II that used 256 colors at once. I've heard that there are several new third-party graphic devices out now (or due soon) for the Amiga, but I understand that they all require some very expensive video hardware in order to be used for animations. Is there anyone offering or planning Amiga graphic cards that will allow those of us with smaller wallets to animate in higher resolutions (and more colors)?

J. Willabee Fort Worth, Texas

A: There certainly is a very effective solution available. It is DCTV (Digital Creations), a fairly inexpensive (under \$500) NTSC display device that allows you to create full-color images and animations using any of 16 million colors. DCTV comes with a powerful paint program as well as digitizing software, so you can scan images in from any still video source, and then edit them with the paint program.

The images can be saved as IFF24 (24-bit IFF image files) or in a proprietary DCTV format that results in a much smaller file. Because it can read in and display 24-bit files saved as IFF24, DCTV is a perfect companion to animation software like Imagine (Impulse), 3DPro (Progressive Peripherals & Software) or even the Video Toaster's LightWave (NewTek).

DCTV can also be used to play realtime animations created by combining DCTV images using existing Amiga software. (To the Amiga, DCTV images are merely high-resolution pictures.) In fact, this DCTV technique was used by IVS at the recent Amiga World Expo in New York to play digitized movies from a hard disk.

The Amiga Power Up Program. The Most Lopsided Deal Since We Bought Manhattan For \$24.

If You Own A Commodore Computer,, It's Worth Up To \$1,500*
Toward An Amiga 3000.

The Amiga Power Up™ Program rewards Commodore or Amiga owners with up to \$1,500 to trade up to a powerful Amiga 3000 computer. Without trading in your current Amiga or Commodore CPU.

If you have a Commodore VIC 20®, 64®, 128™ or Amiga 500, 1000 or 2000 series, save up to:

\$1,500 on the Amiga 3000-25/100 \$1,250 on the Amiga 3000-25/50 \$1,150 on the Amiga 3000-16/50

If you own a Commodore VIC 20, 64, 128, or an Amiga 500, 1000 or 2000 series, write the serial number on the cover of the original owner's manual (no photocopies) and take it to your authorized Commodore

In fact, Byte Magazine said "Commodore has produced the most complete multimedia platform you can get in a single box."

You also get a one-year limited warranty. Plus the option of on-site Gold Service from CommodoreExpress.**

So hurry to your authorized Commodore dealer before June 30th, 1991. Or call

1-800-66-AMIGA.

A deal this good only comes

along once every 300

dealer. You'll get up to \$1,500 off an Amiga 3000 series computer.

The multitasking Amiga 3000 series has it all. 32-bit Motorola 68030 processor. Builtin hard disk control. Interlaced and non-interlaced (31.25 kHz) high resolution video. And four voice two-channel sound.

See chart for qualifying Commodore and Commodore-Amiga CPU's. Subject to dealer participation. Power Up reward based on MSRP. See authorized dealer for details. Not valid in combination with any other promotional offer. Products available on GSA schedule GS-00K-91-AGS-5069. MSRP for Amiga 3000-16/50, \$2,999; 25/50, \$3,499; 25/100, \$4,699. Expires 6/30/91.

"Must be activated by the purchaser.
Commodore VIC 20, 64 and 128 are registered trademarks of Commodore Electronics Ltd. Amiga 500, 1000, 2000 and 3000 series are registered trademarks of Commodore-Amiga, Inc.

Ca Commodore A MICA

Manufacturers'/Distributors' Addresses

Activa International Keienbergweg 95 1101 CE Amsterdam, Holland 011-31-20-97-00-35

Active Circuits 1985 Highway 34 A-4 Wall, NJ 07719 201/974-1616

Adspec Programming 1405 N. Ellsworth Ave. PO Box 13 Salem, OH 44460 216/337-3325

Amiga Video-Graphics Guild 1649 Arcane Simi Valley, CA 93065 805/584-0863

ASDG 925 Stewart St. Madison, W1 53713 608/273-6585

Beta Unlimited 87 Summit St. Brooklyn, NY 11231 718/852-8646

Black Belt Systems 398 Johnson Rd. Clasgow, MT 59230 406/367-5513 800/TK-AMICA **Broderbund Software** 17 Paul Drive San Rafael, CA 94903 415/492-3200 800/533-6263

California Access 130A Knowles Dr. Los Catos, CA 95030 408/378-0340

Centaur Software PO Box 440 Redondo Beach, CA 90278 213/542-2226

Central Coast Software 424 Vista Ave. Colden, CO 80401 303/526-1030

Commodore Business Machines 1200 Wilson Dr. West Chester, PA 19380 215/431-9100 215/436-4200

Computer Creations II 602 State St. Cedar Falls, 1A 50613 319/277-1486 Computrol 35-28 33rd St. Astoria, NY 11106 718/626-2400

CSA 7564 Trade St. San Diego, CA 92121 619/566-3911

Designing Minds Inc. 3006 North Main Street Logan, Utah 84321 801/752-2501

Digital Creations 2865 Sunrise Blvd., Suite 103 Rancho Cordova, CA 95742 916/344-4825

Digital Processing Systems 55 Nugget Ave., Unit 10 Scarborough, Ont. M1S 3L1 Canada 416/754-8090

Electronic Arts 1820 Cateway Dr. San Mateo, CA 94404 415/571-7171 800/245-4525

Electronic Zoo 3431-A Benson Ave. Baltimore, MD 21227 301/646-5031 ExpressWay Software PO Box 10290 Columbia, MO 65205 314/474-2984

Fred Fish Catalog Disk Update 1835 E. Belmont Drive Tempe, AZ 85284

Gold Disk 5155 Spectrum Way, Unit 5 Mississauga, Ontario Canada L4W 5A1 416/602-4000

Gramma Software 17730 15th Ave. N.E., Suite 223 Seattle, WA 98155 206/363-6417

Great Valley Products 600 Clark Ave. King of Prussia, PA 19406 215/337-8770

HoloSoft Technologies 1637 E. Valley Pkwy., S-172 Escondido, CA 92027 619/743-0089

ICD 1220 Rock St. Rockford, 1L 61101 815/968-2228

Become a part of the AmigaWorld Programming Team

We're looking for quality programs to support the growth of the *AmigaWorld* product line and we need your help.

We offer competitive payment and an opportunity for fame.

GAMES ANIMATION 3D UTILITIES
 APPLICATIONS CLIP ART
 AMIGAVISION APPLICATIONS
 OTHER STAND-ALONE APPLICATIONS

Send your submissions or contact us for guidelines:

Amiga Product Submissions Mare-Anne Jarvela (603) 924-0100 80 Elm Street, Peterborough, NH 03458

ВЯiWALL

Solid Products and Solid Support

PRESENTS

THE KRISTAL

A Cinemaware Interactive Movie

Battle ruthless villains, woo a beautiful princess, and interact with strange, alien life forms in this incredibly lifelike animation quest. The Kristal's arcade action combines gorgeous graphics, clever traps, and challenging puzzles as you star as Dancis Frake, a swashbuckling space pirate.

LIMITED SPECIAL OFFER!

\$15.95 Plus \$3.50 postage and handling

1-800-638-5757

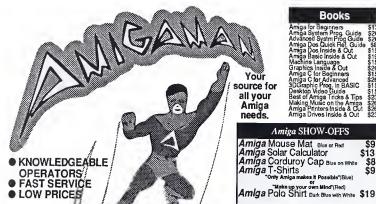
Outside U.S.A. (215) 683-5661

♦ ORDER LINES OPEN 24 HOURS ♦
(Briwallians are in 10-7 EST)

Or clip this ad and mail today BRIG

Briwall Special Game Offer

P.O. Box 129/58 Noble Street Kutztown, PA 19530



Books

Amiga for Beginners
Amiga System Prog Guide
Advanced System Prog Guide
Advanced System Prog Guide
Amiga Dos Guide A Guide
Amiga Dos Guide A Guide
Amiga Dos Busich Reide & Out
Amiga E Basic Imsde & Out
Amiga C for Beginners
Amiga C for Advanced
3DGraphics Prog, In BASIC
Best of Amiga C for Advanced
3DGraphic Prog, In BASIC
Best of Amiga Fincks & Tips
Best of Amiga Fincks Amiga
Amiga Printers Busic & Out
Amiga Drives Inside & Out

Education

Barney Bear (ea) Carmen Sandiego (ea) Distant Suns Katie's Farm Math Blaster Plus McGee Talking Animator Telking Coloring Book

Entertainment

Armour-Gedden
Awesome
Bane of Coemic Forge
Blue Max
Das Boot
Days of Thunder
Death Knight of Krynn
Drapon's Lar 2 (Time Warp)
Drakkhen
Dungeon Master 2
EMra: Mistress of the Dark
Eye of the Behold er
F-29 Retaliator
F-alcon

Falcon
Falcon Missions 1 or 2
Full Metal Planet Gold of the Azteca Gunboet

Immortal Killing Game Show Lemmings M1 Tank Platoon MT Tank Platoon
Overdrive
Overload
PGA Golf
PowerMonger
Quest for Glory 2
Search for the King
Secret of Mnnkey Island
Shadow of the Beast 2
Sim City
Sim City
Sim City Jerrain
Sword of Soden
Turrican

Turrican Ultima V Wings

Graphic Arts Deluxe Paint III Digi-Paint 3 Digi-View Gold 4.0 Dianey Anlm. Studio

Software

Imagine
Professional Draw 2.0
Spectracolor
Turbo Silver 3.0
VistaPro

Music

Bars and Pipes Pro Bars and Pipes Pro Delx Music Const. Set Dr. T's Copyist DTP Dr. T's K C.S. Level II v3.5 Dr. T'a Tiger Cub

Utility

Arexx A-Talk III Baud Bandit Disk Master Project D 2.0 QuarterBack OuarterBack Too \$31 \$62 \$30 \$31 \$37

Productivity

Excellence 2.0 Maxi Plan Plus 2.0 Page Stream 2.1 Pen Pal \$125 \$62

Professional Page 2.0 best for Desk Top Publishing Special \$179

Prowrite 3.1 Quick Write SuperBase Personal 2 SuperBase Professional Word Perfect \$349 \$150

Video

AmIgaVision
Broadcast Titler 2
ChromaKey
Deluxe Video III
Director 2.0
Pro Video Post

Earn AMIGAMAN CASH for Amiga Showoffs. \$1 for every hundred dollars bought redeem for AMIGA SHOW-OFFS

\$9

\$8 \$9

\$13

SHIPPING - WITHIN 2 BURNESS DAYS UPS (BROUND) - \$100 D \$4 MIN \$4. \$100 TO \$200 4% MIN \$6. \$200 TO \$500 3% MIN \$6. \$500 TO \$500 5% MIN \$6. \$500 TO \$500 BURS Ground UPS Red act \$10.00 to UPS Ground MSTERCARD, VISA no surcharge OSCOVER no surcharge DISCOVER no surcharge AMERICAN EXPRESS 3% Surcharge

NEW CDTV Barney Bear School

\$29 \$37

Titles

All Dogs Go to Heeven Adv. Military Systems Classic Board Games

Case of Cautious Condor \$37 Teenage Ninja Tour \$11 World Vista \$64 Call for New Titlea

Scala TV Show V2 TV Text Pro

NEW

Western Pennsylvania's source for

CE Commodore®

Computers & Accessories



A500 A2000 A2500

Complete Amiga systems for

Home, Education, Video, and Graphic Arts

Complete Video Toaster Systems available Stop in or call for an appointment. On site demonstrations, installation and training available. Leasing and on-site service.

Computer sales are limited to walk-in sales and professional installations within our market area. No mail orders please

(412) 962-0533 No One Knows Amiga Better Authorized Commodore Dealer Since 1980

1490 N. Hermitage Rd., Hermitage, PA 16148

GOLDENIMAGE Specials

RC1000 RAM for A500 External RAM Expander 2-4 Meg RAM w/2MB RAM

\$229

Cordless Mouse call Cordless Trackball call

RC500 RAMI AMIGA 500 512K RAM Expansion \$49

MASTER 3A1 880K External Disk drive \$84

GOLDENIMAGE HANDSCANNER W/TOUCHUP SOFTWARE FOR A500, A2000, A3000 \$265

AMIGA 500 EXPANSION SET 512K RAM & 880K Drive w/Clock/Calendar/Bat. Master 3A1 External

Master 3A-1D

\$89

Memory-A2000

Hard Drives-A2000

GVP HC/0 Senes II contril \$159 GVPHC8+0/0 Senes II cntril/\$219 Supra Wordsync controller \$119 42MB Fujitsu Hard Drives \$370 \$2MB QuantumHard Drives \$470 80MB SeagateHard Drives \$440 105MB QuantumHard Drives \$650

Input Devices Boing Optical Mouse Gold Img.OptoMech, Mouse Gold Img. Optical Mouse Mouse Master Switch

Drive

\$209 \$649 \$1449 \$1029

w/ LED Display

2000 RAM Board 2MB 2000 RAM Board 4MB 2000 RAM Board 6MB 2000 RAM Board 8MB

Memory-A500

RC500 512K RAM exp. \$49 RC1000 2MB RAM ext. exp.\$229 Supra Ram500 \$59 SupraRam500RX(1MB) \$139 BeseBoard 0K RAM \$109 \$139 \$109 \$159 \$209 \$109

ADRAM 540

Hard Drives-A500

ICD Nova I Internal 20MB \$559 GVP A500-HD8 +0/42F \$569 GVP A500-HD8 +0/520 \$629 GVP A500-HD8 +0/105Q \$859 Supra500X P w/52Q \$549 Trumpeard 500 \$209 Trumpeard Pro 500 \$269

Bodega Bay Amiga 500 Expansion New \$319

Big Foot Amiga 500 PowerSupply 150 Watt \$99

Drawing Tablets

Dakota Sketchmstr 12x12 \$384 Dakota Sketchmstr 12x18 \$599

Digitizers & Scanners

AudDroid \$48
Color Splitter \$190
Copy Splitter \$190

Floppy Drives

AE 880K external AE 1.52MB external AIR Drive 880K external Master 3A-1 external Master 3A-1D W/Display

Roctec Ultra Slim exten A2000 internal drive

\$99 \$199 \$89

Video

Supergen Supergen 2000S Video Master

Accelerators

Mega Midget Racer 25Mhz \$649 Ad Speed \$216

GVP ALL-IN-ONE ACCELERATORS 22MHz/1MB

\$949 \$1199 \$1399 33MHz/4MB 33MHz/4MB/52Q \$1699 \$1949 33MHz/4MB/105Q 50MHz/4MB \$2149

Mouse Master Switch BatHandle Joystick Boss Joystick Slik Stilk Joystick Tac 50 Joystick Amtrac Trackball Kraft Trackball Hardware (misc)

AT-Once Flicker Fixer Flicker Fixer's DEB 2000 Ad Flicker Free Video AE HD A500 Powersupply

Digi-View System \$449 Digi-View 4.Ŏ piua: Copy Stand, Panasoni 1410 camera # w/lens, Autodroid.

Midi's Midi Gold 500 Midi Gold Insider Phantom SMPTE MIDI

Modems

Supramodem 2400 external \$99 Supramodem 2400 w/mnp \$159 Supramodem 2400 plus \$189 Supramodem 2400 glus \$115 AED atal.ink Express ext. \$169 AED atal.ink Exp. SendFAX \$219 AED atal.ink Exp. \$100 int. \$150 AED atal.ink Exp. \$150 AED

video switch, and all cables.

The only complete system offered 9-8 M-F (West Coast customers call up to 5PM PST), 10-5 Sat

1-800-262-0533 Orders only 24 Hour Fax line (412) 962-0279 Canadian orders & Customer Service (412) 962-0533

Circle 253 on Reader Service card

\$49 \$56



THE GRAPEVINE GROUP, INC.

COMPARE OUR PRICES

<u>AMIG</u>∆™

DIACNOSTIC
Amiga Diagnostician: Book/
Software/Schematic14.95
A500 Service Manual34.95
A1000 Service Manual 44.50
A2000 Service Manual44.50
SAMS Computerfacts &
service-manualssee catalog
Dr. Ami (software)29.35
AMI Alignment System 28.50
Low cost/remanufactured
printheadssee catalog

AME A POWER SUPPLIES
A500 45 watt (hvy dty)67.50
A500 150 watt/fan
BIG FOOT supply89.95
A1000 Replacement P/S127.00

A2000 Replacement P/S..147.00

MISC PRODUCTS

Golden Image Hand

Scanner	
Printer Port Adapter (ru	
Comm. printer to PC)	34.95
Kwikstart (A1000 1.3	
ROM)	58.00
***************************************	*************
Fatter Agnus (8372A) 1	
w/chip puller (a neces	
w/instructions	.\$99.00

STEATURE EXPANSION
GVP RAM 8/2 A2000
Expan. BD (2 Megs)193.50
4 Meg Board298.00
512K RAM Module
(A501)49.50
1x4/80 SC Zip for A300034.95
1x1/100NS7.50
256x4/12 all ICD,GVP5.50
1x8/80 SIMM49.95

120, 100 0111111 11111111111111111111111						
HP Laser Memory Board						
1 Meg99	.95					
2 Megs147	.95					
4 Megs229	.95					
Insider II BD for A1000287	.00					

1v8/100 SIMM 48.95

LEBPRODUCTS

***************************************	***************************************
A500 Produc	ts
AdRAM 540 ØK	98.00
AdRAM 540 1MB	136.00
AdRAM 540 2MB	
AdRAM 540 4MB	265.00
AdRAM 560D	178.00
A2000 Produc	cts
AdRAM 2080 ØK	
AdRAM 2080 2MB	185.00
AdRAM 2080 4MB	253.00
AdRAM 2080 6MB	321.00
AdRAM 2080 8MB	
AdSCSI 2080 ØK	194.00
AdSCSI 2080 2MB	292.00
AdSCSI 2080 4MB	390.00
AdSpeed	207.00
Flicker Free Video	306.00
AdIDE 40 (3.5 kit)	110.00
AdIDE 44 (2.5 kit)	119.00
Novia 201 (A500)	524.50

OUR 12TH YEAR!

The same of PCRADES

MegaChip 2000 ™ —Upgrade your A2000 to 2MB of chip RAM. Includes A3000 2MB Agnus chip \$339.00 less rebate.

Multistart II—NEW ROM switch for 3 ROMs for A500/	
1000/2000 and Keyboard Controlled\$87.5)
1000/2000 and Keyboard Controlled\$87.5 Switch Activated Version\$37.9	5

150 Watt "Big Foot" A500 Power Supply with fan. An absolute must for those adding on more memory......\$95.00

Emergency Amiga Startup Kit—Sold to government PXs and now available to all. Kit has major chips, parts, schematics, instructions and diagnostic software programs, etc\$99.50

Rejuvenator A1000—Upgrade board with complete system diagnostic software package (\$30 value)\$479.00

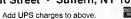
Diagnostic Trouble-shooting Software (STU), a terrific seller & absolute must (all Amigas) by Global Upgrades, Inc......

NEW SPRING CATALOG JUST RELEASED

If you want to know more about any of the products above or see the rest of our Amiga line, send for our 36 page Spring catalog. It contains products you won't find anywhere else!

3 Chestnut Street • Suffern, NY 10901





Add UPS charges to above.

Customer Service (914) 357-2424 Fax (914) 357-6243

Order line only 1-800-292-7445

Prices subject to change

We ship worldwide

I.DEN Videotronics

9620 Chesapeake Dr., Suite 204 San Diego, CA 92123 800/874-1DEN

Impulse 6870 Shingle Creek Pkwy., #112 Minneapolis, MN 55430

612/566-0221

INOVAtronics 8499 Greenville Ave., Suite 209B Dallas, TX 75231 214/340-4991

IVS

7245 Garden Grove Blvd., Suite E Garden Grove, CA 92641 714/890-7040

JVC

41 Slater Dr. Elmwood Park, NJ 07407 201/794-3900 800/247-3608

KarmaSoft PO Box 1034 Golden, CO 80402 303/277-1241

MAST 1395 Greg St. Sparks, NV 89431 702/359-0444

Memory Expansion Systems 46 Fenwick St. Bensalem, PA 19020 215/741-6225

MicroIllusions PO Box 3475 Granada Hills, CA 91394 818/785-7345

MicroSearch 9896 Southwest Freeway Houston, TX 77074 713/988-2818

NEC 1255 Michael Dr. Wood Dale, 1L 60191 312/860-9500

512/328-6650

New Horizons Software 206 Wild Basin Rd., Suite 109 Austin, TX 78746

NewTek 215 S.E. 8th St. Topeka, KS 66603 913/354-1146 800/843-8934

Oxxi 1339 East 28th St. Long Beach, CA 90806 213/427-1227

Precision Software 8404 Sterling St., Suite A Irving, TX 75063 214/929-4888

Preferred Technologies 14540 East Beltwood Parkway Dallas, Texas 75244 214/702-9191 800/878-0010 Progressive Peripherals & Software 464 Kalamath St. Denver, CO 80204 303/825-4144

Psygnosis Ltd. 29 St. Mary's Court Brookline, MA 02146 617/731-3553

Right Answers Group PO Box 3699 Torrance, CA 90510 213/325-1311

Roctec 17 Knowles Dr., Suite 202 Los Gatos, CA 95030 408/379-1713

Showline Video 120 Beacon St. Boston, MA 02116 617/262-6844

Software Visions 12625 La Tortola San Diego, CA 92129 619/538-6263 800/527-7014

Spirit Technology 220 West 2950 South Salt Lake City, UT 84115 801/485-4233 800/433-7572

Strategic Simulations 675 Almanor Ave. Sunnyvale, CA 94086 408/737-6800

Strategic Studies Group 1747 Orleans Court Walnut Creek, CA 94598 415/939-3019

SunRize Industries 2959 S. Winchester Blvd.. Suite 204 Campbell, CA 95008 408/374-4962

Supra Corp. 1133 Commercial Way Albany, OR 97321 503/967-9075 800/727-8772

TTR Development 1120 Gammon Lane Madison, W1 53719 608/277-8071

UBI Soft
Distributed by
Electronic Arts

William S. Hawes PO Box 308 Maynard, MA 01754

Zardoz Software 6114 La Salle Ave., Suite 304 Oakland, CA 94611 415/339-6280

LET'S FACE IT-MAIL ORDER HOUSES ARE NOT ALL THE SAME!

-FAST SERVICE—RELIABILITY—SUPPORT

Ñ	AMI	GA AMIGA AMIGA	AM	MIGA AMIGA AMIGA	AM AM	IGA AMIGA	AMIGA	AMIGA AN	IIGA A	MIGA	AMIGA AMIGA	AMIGA	AMIGA	AMIGA	AMIG	A
Ž	GA	ABACUS		BROOERBUNO		ELECTRONIC A	IRTS	INTER	RPLAY		MICROPROSE		SHEREF	F SYSTEMS		AM
Я	AM	Amiga DOS Toolbox AssemPro	. 24 60	Sim City Plenners Book . Sim Terrain Editor .	15 C	nbbage King/Gin King as Bool eluxe Painl-111	26	Battle Chess Chockmale .		30 33	Red Storm Rising Silent Service	33	Pro Video Gold		150	Ě
Я	•	BeckerText DelaRetreive	90 48	Wings of Fury	24 D	eluxe Paint-111 eluxe Music Construc		Dragon Wars Dragon Wars Hin		. 30	Sluni Track Racer	. 24	A-10 Tank Kille	ERRA	30	IG A
Я	<	TextPro	48	BYTE BY BYTE.		eluxe Print H	51	Fulure Wars	ts	. 13	Weird Dreams MICRO STYLE	24	Black Cauldron Codename, Ice		24 36	
S	AMIGA	ABACUS BOOKS 3D Graphics Prog in BASIC	. 17	Sculpt 4D Jr CAOVISION INT,	IVS E	ari Weaver Baseball	16	Neuromancer . Neuromancer Hen		13	Simulcra	30	Codename Ice	man Hınis	10	₹
Ž	4	3D Graphics Prog in BASIC	10	XCad Designer II	90 W	feever Comm. Disk feaver '89 Stats	15	Cen Do	TRONICS	90	Analyze MICRO SYSTEMS	60	Colonel's Bequi Conquest of Ca	melol	36	ดิค
ă	_	C for Beginners - C for Advenced Programmers +	16 26	XCad Professional CAPCOM	F	mpire	32 16	Power Windows v	25	_ 54	Excellence Scribble! Platinum	120 60	Gold Rush . Hero's Quest		. 36	
Ø	₹ S		16	Stnder II		29 Relaliator . A-18 Interceptor	32	Broadcast Titler v	VISION	180	The Works - Plalinum	178	Hoyle's Book of King's Quest 4		. 36	M
8	A A	Amige Beginners Book . Amige Printers In/Out Book	25	BAD . CENTAUR		ood olden Axe	. 26	KARA G	RAPHICS		MINDSCAPE Arcade Megahits v2	. 32	Leisure Larry 2 Manhunler/Nev	or 3 York	. 36	ē.
a	•	Amige Basic In/Out Book + Amiga Ponters In/Out Book	19 25 24	D.U.D E. My Paint	30 H	arpoon	38	Animionis I, II or II Headlines I		30 48 42	Arcade Megahits v2 . Balance of Power 1990 Captive .	32	Menhunter/San Mixed Up Moth	Francisco	30 20	GA
a	٧.	Graphics In/Out Book + Prog Guide Book +	24 24	World Atlas CENTRAL COAST	36 14	ound of the Shadow unt For Red Oct.	16	Headlines II . / SubHeads		42	The Colony Harley Davidson	29 32 32	Police Quest 2	or 3 .	36	
×	AMIC	Prog Guide Book - Adv Prog Guide Book - Drives In/Qul Book -	24 22	Drsk 2 Disk .	30 In	mortel	. 20	KARM	ASOFT	24	Loopz	33	Lotto Program	T BYTE	24	AMIGA
K	₹	AmigaDOS In/Oul Book +	16 25	Dos 2 Dos	33 In	npenum	. 26	Power Pinball .	DEL	24	NATURAL GRAPHIC Scene Generalor	S 30	SOF	T LOGIK		S S
3		+ = Companion Disk Avail	13	Outrierback Tools CINEMAWARE	M	est Patrol agic Fly	26	Bandil Kings Chir Genghis Khan	19 .	36 36	NEW HORIZONS		PageStream v2	RE VISIONS	180	
8	ĒΑ	ACADEMY SOFTWARE Typing Tutor	. 21	Arcade Fever	20 1	avis Beacon Typing . ight & Magic II	32	Nobunagas Ambil	tion	36	Prowrite 3.1 QuickWnle	105 45	Microfiche Filer	Plus	60	Š
đ	¥ V	ACCESS	-	Brain Blaster Dragonford .	32 N	ight & Magic II Hints ightbreed	. 38 . 13 . 26	Romance of the 3	IMAN	. 42	NEWTEK DigiPaint 3	60	SOF Electronic Thes	TWOOD	30	AIGA
3		Heavy Metal Mean Streets .	30	Federation If Came From the Desert Desert if Date Disk	32 N	ighl Hunter uclear War	23	Back to the Future Blades of Steel	e II	. 25	Digiview Gold	138	Pen Pal		30 90	>
3	P P	ACCOLAGE			15 p	ck 'N Pile	. 32	Casllevania Double Dribble		15 15	CMNITRENO Paladin	24	SPECTRU Faces-Teins III	M HOLOBYTE	24	>
×	¥ ¥	Bar Games Bubble Ghost	10	Rocket Ranger/Three Slooges Sinbad	32 p	opulus . owerdrome .	16	Super Contra		15	Paladin Quest Disk1	18	Felcon Falcon Mission		30	Š.
g	⋖	Elvira Hinis .	36 13 27	TV Sports Basketball	32 P	owermonger ojectyle	. 32	Teenage Mulani LAKE FOR	EST LOGIC	27	ORIGIN Autodumi	24	Falcon Mission	s ti	20 21	G A
8	⋖	Fasi Break Fourth & Inches	27 15	TV Sports Football			. 26	Disk Mechanic Macro Painl		54 84	Moebius Ogre	33 20	Solitare Royale Telns I		21	
9	5	Graphics Studio Hardball II	10	COMMODORE Amigo Logo	ec P	uffy's Sege uzzle Storybook hyming Notehook	. 23 26 26	LAT	TICE		Omega	. 30	Wellins Teins i	: SIMULATION	21	§
X	AM.	Heat Wave	27	Amigavision .	95 S	hyming Notebook arthight arthight Hints	. 32	Lettice C Develop Lattice C Plus Plu	ment/Comp	215 250	Space Rogue . Times Of Lore .	25 30	Buck Boners		32	AMIGA
Š		Ishido Jack Nicklaus Unlimited	33	COMPUTE! BOOKS AmigaDOS Reference Guide	S	anigni Hinis reel Rod innels of Armagedon	. 13 26	LIVE S	TUOIOS		Ultima-III	24 27	Champions of I Curse of the Ad Azure Bonds H	srynn zure Bonds .	. 32	^
3	ξ	Jack Nicklaus Golf J Nicklaus Course 1,2or3	30 16	Beginners Guide Amiga Amiga Programmers Guide Inside Amiga Graphics	16 T	irbo Outrun	26 32	Fulrue Classic Co Thunderstrike	ellections	30 24	Ultima-IV	. 39 . 37	Dragon Sinke		. 13	>
ą	Ř	J Nicklaus Course 4	17	Inside Amiga Graphics	16 U	nreal niouchables	. 32	LUCAS	SFILMS		Windwalker . OXXI	24	Dungeon Masi Hillsfar	Assl v1 .	. 20	AMIGA
K	۹.	Mean 18 Shool Em Up Construction	27 15	Elementary Amiga Basic Advanced Amiga Basic	16 Z:	egas Gambler . uny Golf	26 15	Battlehawks . Indy Jones/Crusa	de Arçade	. 18	A. Talk III	60	Hillsfar Hini Bo Overrun	ok .	8 38	ž
4	<u>g</u>	Star Control	30	ML Programming Guide Kids & the Amina		ELECTRONIC 2	200	Indy Jones/Crusa Indy Graphics Hir	de Grachics	s 20	Audiomaster III SpectraColor	. 60 . 61	Pool of Radian	ce	32	
ł	5	Test Drive II	30 15 30	Arniga Applications 1sl or 2nd Book of Arniga	16 B	erlin 1948 ack Gold	24 24	Loom Hints		13 38 12	VidenScape 3D . Videotitler	120	Pool Hints Second Front		32	AMIGA
8	¥	California Challenge	16	CONSULTRON	Le	igend of Faerghall . Igend of William Tell	24	Maniac Mansion I Maniac I Hints	i .	. 12 16	PARSEC SOFTWAR	E	Storm Across E Sword of Arago		. 38	อิ
8		Europeen Chellenge . Super Cars	16	Cross Dos v4 DATA EAST	24 S	oherical .	24	Night Shift		26	Operation Spruance PELICAN SOFTWAR	30	Typhoon of Ste Wargame Cons	el	38 26	^
1	S	Muscle Cars	16	Batman-Arcade or Movie	27 TI	easure Trap king Child	24	Their Finest Hour	BYTES	38	Pelicen Press	61	STRATE	GIC STUCIES		≥
1	AMIGA	ACTIONWARE Actionware Phasar Gun .	39	Chamber of Sci Mutants Drakkhen	36 X	phos	24 24	Domination Wall Street	27.20	21 24	POLARWARE All Dogs Coloring .	20	Gold of the Am Warlords	encas	13 30	AMIGA
R	_	Capone	24 24	Drakkhen Hints Full Metal Planel		ETHOS	24	MA	NX.		Al the Zoo . Classic Board Games	24	SUE	BLOGIC		ž
ă	≤	Prison	24	Monday Night Football	36 p.	ker Solitare	21	Aztec C Develope Aztec C Profession	mal	180 120	Dinosaurs Are Forever	20 24	Flight Simulator Scene Disk 7.96	or11	30 20	
ď	AMIGA	Phasar V4 0	54	North & South	15 27 13 AI	FREE SPIRIT nikit/Drive Align .	30	Aztec C SL Debu	gger	60	Numbers Count Opposites Affract	. 24	Scenery Disk H Scene Disk W	lawaiian	20	ž.
ķ	₹	ARTWORX		Robocop II	20 B	arnev Bear-Farm	21 21	Clue	TRONICS	24	Operation Combal PRECISION	30	Jel .		. 30	G A
K	_	Bridge 6.0 . Centerfold Squares .	24 20 18	DAVIDSON Math Blaster Plus	_ B	imey Bear-School imey Bear-Space	21 21 . 10	Conflict Risk		16	Superbase Personal-I	48	SUNI Perfect Sound	RIZE IND.	68	
K	3	Linkword French . Linkword German	18 18	OESIGNING MINDS		agonscape . xtor Ami	. 10	Scrabble		24	Superbase Personel-II Superbase Pro v3	90 210	SYRE	X BOOKS		ž
k	AMIGA	Linkword Greek Linkword Ilelian	18	Bylo & Back	42 24 D	FTL		Double Dragon II Magic Johnson B Magic MVP Bask	eskerball .	30	Superplan PROGRESSIVE	90	Amiga Program Amiga Hendbo	mer's Guide	. 19 19	§
k	`	Linkword Spanish Puzzle Mania	18 19	Crossword Construction . Great States it Home Front	24 D	ingeon Master I or II ingeon Master I Hints	. 12	NY Warnors	erbaii 	16 30	3D Professional	300	7singa richood	AITO	10	IGA
8	త్	Step Poker-II	24	Middle Easl World Tour	25 Di	Ingeon Master II Hint GOLD DISK	s 10	Overlord	r .	. 30	Animalion Stalion Baud Bandet	60 30	Amiga Action F	ack	20	
1	AMIG	S. Poker Dela 1-3 ee ASOG	15	Top Form DIGITEK	54 C	vmv-Satter	60	Shark Attack Goll Soint of Excalibut		24 31	Diskmasier v1 4	30 30 60	F-40 Pursuit Si	TTUS	27	AMIGA
1	₹	Cygnus Ed Pro	60	Dinowars		omicSetter Art Superh omicSetter Art Science		Sport of Kings . Super Off Board		16	Dunlap Utilities Intro CAD Intro CAD Plus	48	Wild Sireets		. 27	อ
1	_	BAUOVILLE Award Maker Data Sports	18	Hole in One Miniplure Golf . Hole in One Dele #3	10 Di	omicSetter Art Funny isklop Budgel	42	2 Wer In Middle E		30	Intro CAD Plus PIX Male	90	Rard Tale I- H	SEVERA		
i	<u>8</u>	Awerd Maker Data Sports Awerd Maker Data Educational	18	Targhen DISNEY		nt Sel·I old Spell·II	21 27	MEDIA Beyond Dark Cas	GENIC Ile	. 15	Ultra Design	240	Bard Tale I- Hi Kings Quest 3 Leisure Larry I	Hini Disk	15 15	š
d	¥	BETHESOA SOFTWARE Damocies	27	Artemation Studio	08 Li	serScript ovieSetter	27	Ghostbusters II Rampage		24 15	PSYGNOSIS Anarchy	24	Shadowgale Hi	nl Disk	15 15	AG A
d	•	Dregon's Lair II Gridings	42 18	OR T SOFTWARE	Th	e Office igesetter II	180	MICR	DDEAL		Awesome Baal	36 21	Zak McKracker	Hall Disk	15	>
1	V V	Wayne Gretzky Hockey Hockey League Sim	30	Copyist DTP . 1	95 Pr	ofessionel Draw .	. 120	Devpac v2 Hisoft Basic Pro		60 96	Blood Money	21 24	UNISC Profession Pic	N WORLD	24	>
ŧ	AMIGA	BLUE RIBBON BAKERY	24	Tiger Cub .	25 Pr 60	olessionel Page v2 IMPULSE	240	MICROIL	LUSIONS		Captain Fizz Carthege	18 27	Art Gallery 1 &	2 Combo	24	₽
ľ	⋖	Bars & Pipes BRITANNICA	180	EAGLE TREE		agine irbo Silver	210 67	Black Jack Acade Faerytale Advents	irny ire .	13 30	Chronoquest II Infestation	30 24 27	Art Gellery 3 Fonts & Bordes		. 20 21	IGA
3	⋖	Archapeligos	21	Distant Armies	27	INFOCOM		Music X Jr Pholon Paint v2		. 90 90	Killing Game Show Lemmings	31	VEGA TE	CHNOLOGIES	24	- 1
4	AMIGA	Designasaurus Jigsaw	30 24	ELAN OESIGNS	90 B	thur: Quest For Excat		MICRO	LEAUGE		Mainx Marauders Nitro	. 24 27	Amikil Amige VIRTIL	L REALITY	24	ž
	₹	BROOERBUND		ELECTRONIC ARTS	Jo	umey	. 20 . 20	WWF Wrestling .	MASTER	24	Oblus Shadow of the Beast I	36	Distant Suns	L HEREIT	42	IGA
1		Carmen/Europe	30 30	688 Attack Sub Hints	12	INNERPRISE		Family Tree v2		48	Shadow of the Beast II . Shellbound	36 24	Visla Visla Pro Vista Dela - Mi		90 48	P
3	ĕ.	Camen Time Camen/World	30 30	Aniraneut	26 Ba	prentice ttle Squadron	20 24	3D Pool	PROSE	. 21	Stryx	21	Vista Dala - Ca	alif. 1		≥
8	AMIGA	Omniplay Horseracing Prince of Persia	14	Berds Tale I or II	16 Ja	mes Bond - Stealth st Dutchman's Mine	24 30 30	Dr Doom's Reven	ige .	24	READYSOFT	150	WILLIAN	A S. HAWES	30	AMIGA
1	⋖	Kalie's Farm McGee	24	B A T Block Out	32 GI	obulus rsian Gulf Inferno	30 20 24	Eitle Hint Book by	Leroy .	7	64 Emulator II(500/2000) .	48	WSHELL			×
8	⋖	Pictionary Sim City	24 30	Blue Max	33 PI	rsian Guir Interno . suge vord of Sodon	24 24 17	Land, Sea, & Air Pro Soccer		36 27	Dragons Lair Dragons Lair-Time Warp Space Ace	36	WOROPE	RFECT CORP	165	
	AMIGA	Sim City Graphics #1 or #2	23	Chessmaster 2100	26 St 32 Tu	rncan	24	Pro Soccer Midwinler M1 Platoon		24 36	Space Ace Wrath of the Demon	36 30	Wordperfect Life Wordperfect Life	brary	78	₹
1	₹	WECARRY	A CC	OMPLETE LINE O	FΔC	CESSORI	ESFOR		OMP	ITED	- ASK FOR OU	RERE	E CATA	LOG		ត្ត
3	AMI			IIGA AMIGA AMIGA			AMIGA			MIGA		AMIGA			AMIG	
8	×	Amua Amua		Amida Amida	AMI	GA AMIGA	AMIGA	AMIGA AM	IOA A	MICIA	AMIGA AMIGA	AmidA	Amida	AMIGA	-mag/	
8	XXX	***************************************	***	//////////////////////////////////////	***	*******	******	*******	****	*****	****	XXXX	******		***	WW.
×	<u> </u>	***************************************	XXX	***********	***	××××××××××××××××××××××××××××××××××××××	XXXXXXX	**********	XXXX	×××××	*********	****	XXXXXXXX	****	XXX	₩
a .		man TOLI	E D (0-		

SOFTWARE SUPPORT

AND IBM

Please call or

TOLL FREE LINE FOR USA & CANADA

800-356-1179 Monday - Friday 6AM/5PM Pacific Time NEW - Saturday 7AM/3PM Pacific Time AMIGA COMMODORE INTERNATIONAL ORDERS 206-695-1393 Seme Hours As Above

NOW ACCEPTING FAX ORDERS 206-695-0059 24-Hours A Doy!

TECHNICAL SUPPORT LINE 206-695-9648 Mondey • Friday 9AM/5PM Pecific Time

METHODS OF PAYMENTS - We accept money orders, certified checks, Visa, MiC, and Discover. Previous customers may also pay by COD or personal check. All mones all 50 US states. Please add\$3.75 in edderon to your S&H charges. MUST be paid in 105 fands.

If You Prefer, You May Mail Your Order To:

Software Support International

SHIPPING AND HANDLING CHARGES - USA (48 states), FPO, APO, US Possessoris: Please and \$4 00 per order. US shipping a usually by UPS ground Fast UPS and Dely Are a swished USA 93 states only by anderg \$5.00 per pound it till bil) and \$2.00 per pound it Circle 226 on Reader Service card.

2700 NE Andresen Road, Suite A-10, Vancouver, WA 98661

OTHER POLICIES - Washington State residents must add 7.6% to their order for state easies tax. Defective items are replaced at no linear order and state easies tax. Defective items are replaced at no detail, at mission confers are processed within 24 hours. US (48 state) software orders over \$100 will be shipped 2nd Day Are at no additional charge above the normal \$4.00 S&H for All prices, policies, and specifications are subject to change without notice All states are final unless authorized by management.



VISA, M/C, & Discover

Please call or write for our FREE CATALOG Overseas customers please remil 3.00 U.S. funds to help defray shipping costs.



\$5.95 ea 1-9 Disks

\$4.95* ea 10-24Disks

\$3.95* ea 25+ Disks

* Anti-Virus Free on all orders with 15 or more disks!

Public Domain Library

We are the Offical Public Domain Library of Antic Amiga Plus, we have been the Offical PD library of Amiga World. Find but why these magazines choose us! Each of our disks are jam packed with only the best programs. The first two letters on each disk indicate the orientation of the disk. DD# intermediate to advanced - often contains source, WB# general interest - most programs can be run from the workbench, and FD# games and entertainment. Order our disk based catalog and receive a couppn for a complimentary volume with your next purchase. We always use only SONY disks!

Featured Disk

DD79abcd: Amiga C Programming Tutoriai - This is the most comprehensive C language, Amiga orientated sat of tutorials available. Includas full working examples, source code and an incredible set of lessons. Included are tull discussions and examples of mostAmiga programming topics. Four disk set, counts as three.

New Disks

FD55:Puzzles - Contains TripleYatz, a multiplayer, multigame yatzee clone. Also BoomSquad, an .info best of PO Pick (#39.pg 45), Adventure, Logic, and Mosaic; four very good

strategy games. FD56: Arcade - Includes SpaceWar, an info "Best of PO" pick (#39, pg 45), HueyRaid a well done helicopter arcade game, and Game - a "GameBoy" emulator with a version of Tetris. WB87: New Testament - Contains the entire text of the New

Testament in a well thought out user interface. 1mb suggested. WB88abc: The Complete Bible - A three disk set, with the entire text of the New Testament and Torah (Old Testament)

includes w687. 1mb suggested.

WB89:Education- Fish, not your everyday electric eel, but a fun to experiment with simulated fish aquarium. Also contains a fun to experiment with simulated itsh aquarium. Also contains a well done martin quizzer, instory, religion, geography and more. WB90: Rippers, Strippers and Beats - For the Amiga music enthusiast, this disk contains many programs designed strip music from your favorite games and programs. Music can then be played with your favorite PD Music program. Also contains Orums, a very nice drum machine. This disk does require moderate knowledge of the CLL
WB91: AV Educational - Flags of Europe, beautifully presents

all of the flags of Europe along with maps and geographic statistics of the countries. Requires AV.

Other Great Disks!

FD5: Tactical Games - BullRun - a Civil war battle game, Metro - you play the role of a city planner. Build wisely and your system will be a success, but poor planning will lead to disaster

and financial ruin. Very very habit forming.

FD6: GAMES! - This disk is chock full of games including;
Checkers, Clue, Gold - A new slide the pieces puzzle, Jeopard An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat Tanks and asteroids. FD7: PACMAN - This disk contains several pacman type

games including; PacMan87, MazMan and Zonix.

FDB: Moria - This bas great graphic controls, multiple spells, similar to Larn and Hack. Play time several weeks!

FD10: HackLite - A dungeon adventure game. Considered a must-have classic. This is the second release of this game on

the Amiga. Great Amiga graphic interface. Play time several

FD11: Las Vegas and Card Games - Las Vegas Craps - The

FD11: Las Vegas and Card Games - Las Vegas Craps - The best Las Vegas Craps simulation every written for any computer. Contains extensive HELP features, Also Thirty-One, VideoPoker and more.

FD12A,FD12B: Star Trek, The Game - This is by far the best Star Trek game ever written for any computer. It features mouse control, good graphics, digitized sound effects and great gameplay. Counts as 2 disks. Req. 1Mb and two drives (or hd).

FD13: Board Games - contains multiplayer Monopoly. Dominoes, Paranoids, and others.

FD14: Dungeon Master Hints and Arcade Games - OM maps, spelis, item location, and hints and more, also on this disk, Hball - an arkanoid/breakout type game, Trix - a Qix type clone.

FD17: Educational Games - This disk includes several games

FOTY: Educational Games - Inis disk includes several games for the younger members including geography, math, science, and word games, also includes Wheel of Fortune.

FD20: Tactical Games - MechForce(3.72); A game that simulates combat between two or more glant, robot-like machines. Simple words can't begin to give you the feel of piloting a 30 - 40 toot tall, tire breathing, earth shaking colossus that obeys your every with.

hability a 30 - 30 white. He are a standard standard standard commercial quality game. Similar to a Lucas game named FipeOreams, excellent playability and entertainment, Mutants, a small version of the areade game of the same name, also

SuperBreakout a pong/arkanoids type game.

FD27: Arcade Games - This disk is loaded with some great

games. Includes, Raceorama a great racing car game with ten different courses, MiniBlast a helicopter gunship type clone, Shark in the same class as froger, and SBreakout the original breakout with more.

FD29: Shoot'em up's - WWII - you're the pilot of a WWII plane

FD29: Shoot em up 5 - WWII - you're the plot of a WWII plane flying through enemy territory, you've just been spotted, good luck on you mission, SpKiller - try and penetrate enemy lines with this game, and Retailator - another great game. FD31: GamesI - Air Traffic Control - a good ATC simulation game, Black Jack Lab - a full featured set of card games, Chass-Fel - play chess with your friend in distant and remote places with this game and a modem, labyrith - a well done text adventure game (like an Infocom game), and Mouse Trap - a 3d

maze game. FD32:Flight Simulator - Includes an instrument tlight simulator

FD33: Arcade Games - Ffreddy a mario brothers type of FD33: Arcade Games - I-freddy a mario brothers type of game, Gerbils a target practice game, PipeLine a German interpretation of Pipe Dreams, Tron a light cycles version, and wetroids a wonderful version of asteroids with a hilarlous twist. FD34: Games - Includes WellTrix a derivative of the addictive game of tetris, and new version of BackGammon. Also included

game of tetris, and new version of BackGammon. Also included are several new "Schwabie type Hacks".

FD35 Omega (v 1.3) - A new outstanding dungeon and outdoors adventure game in a similar vein as hack, rouge, and moria. This version is considerably faster and better that all previous versions. Play time several weeks or months.

FD37a & b:Tactical Games - Empire (2.2w) This great game

comes highly recommended. With a full-teatured graphic front

FD38: Games - Cribbage Master - A great cribbage game and tutor, Spades - a well done card came, ChineseCheckers - A computer version of this classic, Puzz - a slide piece puzzle

game and construction set.

FD39a & b:Tobias Star Trek - This is a new, completely different version of Star Trek than that found on FO12. This

ditterent version of Star Trek than that found on FO12. This one was created by the German author Tobias. Now with English instructions. Very Excellent!!! Counts as two disks. Requires 512k memory, a 500, 2000 or Pal.

FD40:Arcade - MiddleEast - a timely arcade game of death and destruction set in Iraq. Back ToTheFuture!! - a very playable demo version of this soon to be released commercial carea. City-a registering and done.

game, City - a missile command clone. FD41:Games - Includes Capital Gains - a stock market game Ball a Arknoids type of clone with many great twists, and Desert Shield - a search and destroy conquer theme. FD42:Games - Includes SpaceWar3 - a remake of this original

FD42: Games - Includes SpaceWar3 - a remake of this original Amiga classic, Trippir - a fascinating board game of intrigue, strategy, and player manipulation, Dominion - an engrossing strategy game of galactic war and conquest, Frog - a frogger type clone, and Mines - a very good strategy board game. FD44: Game - Mechtight is an out of this world role-playing adventure comparable to hack and moria. The setting, interplanetary colonies and space stations. In your quest to explore the world, take time out to liberate bad guys of their most valuable possessions, engage in a mortal combat or two against robots and alien life forms, pick up a new amiga 9000. Most of all, don't forget to stay alive...
FD45: Arcade - Three good shoot'em ups. Batman - save the city from the Joker, DriveWar - gangsters are moving in on your territory, stop them at all costs, Web - a spidery, buggy affair of eat or be eaten

eat or be eaten.

FD47: Arcade Games - Contains OownHill - a demanding rus: Arcaee dames - Contains DownHill - a demanding computer sialom ski game, MicroPac - a Workbench mini-pacman game, CrackOut - a break out clone, Jel - a superb aerial dogfight game, AmegaRace - an interesting asteroids type of game, and WindyDay - a unique arcade

FD49:Chaos Cheats - This disk contains an everything you wanted to know about cheat set for Chaos Strikes Back, including full maps, spells, object locations, super characters

FD50: Submarine Game - Sealance, one and a half years in the making, this is an outstanding submarine tactical game.

Commercial quality, highly recommended.

FD51: Games - DesertStorm a fast action arcade game,

FD51: Games - DesertStorm a fast action arcade game, Amigatration a well done concentration game, Chute a parachute jumping game, Running a dungeon adventure game similar to Wanderer, and Soliv a solitary card game.
FD52: Classics Games - PetersQuest a well done Mario bothers type of game, Jymbc a two player missile command cone, and Vstank a tank commander game.
FJ33: Great Arcade - On this doi: a wonderful implementation of the ever popular classic arcade game Defender. Also contain Air Race a WWII ilying ace arcade

game, and Psycoblast new creation idea game.
FD54: FoodFight - Contains Galactic FoodFight, a wacky spaced out arcade game loaded with shooting ketchup, and hamburger eating monsters, and lying bizas.
WB2: General Interest - contains, Galaxy a program that represents the collision of two galaxyies, Larn - an adventure/action game similar in concept to roque or hack but with a much different feel. Try it, you'll like iti, StarChart - a program that lets you display and identify about 800 stars, galaxies and nebulae visible in the Northern hemisphere.
WB4: Telecommumnication - This disk contains several excellent pot communication programs designed to get you on line quickly and easily, Access (1 A2) - A very nice ANSI term program based on Comm v1.34, but with the addition of transfer protocols, Comm (1.34) - Last version of one of the Startings, Handshake (2.12a) Handshake is a Full featured VTSZ100/102/220

included are five PageStream fonts, and ShowFont - a font

Included are nive Pagestream tonts, and Showhoft - a fort display program. WB6: Video Fonts #2 - ShowFont(4.0) This program allows you to quickly and painlessly view all 256 characters in a typical lont. Large AmigaDos system tonts (many up to

WB7: Clip Art - This disk is loaded with black and white clip

WB9:Icons - Truly a multitude of various types and kinds.
Also includes IconMiester, IconLab, and others great utilities wB10:Virus Killers - The latest and best VirusX(4.0), Kv(2.1), and ZeroVirus(1.3).

WB11: Business - Clerk(4.0), tinally a tull featured business accounting PD program for the small to medium company. Includes receivables, payables, end of month and much mosh mosh. much more.

much more. WB12: Disk Utilities - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and tile recovery archive and organizing, and all sorts of file manipulation. A real must

WB13: Printer Drivers and Generator - over 70 different drivers, and if these don't do it, with PrtDrvGen you can make

your own.
WB14: Video- on this disk are several utilities for the video enthuslast. We have included multiple slates, video titling, enthuslast. We have Scale Screen fades and swipes, emrusiasts, we induced mitupie states, video futing. Bars and Tone, Gray Scale, Screen fades and swipes, Interface toggles, and SMPTE Calculators. Also on this disk is a full leatured video cataloging program. WB 15: Business - This disk contains a spreadsheet, a database, a project/time management program and financial analysis (stocks).

wB16: Business - This disk contains an inventory manager,

WB16: Susiness - This disk contains an inventory manager, a loan analysis program, a great calendar/scheduler, a rolodex program, and one proper suspensive second to the control of the c

strong macro features, TexED(v2.8) an enhanced Emacs type editor, and a spell checker. WB20: General Interest - OiskSalv V1.42 a disk recovery program for all Amiga file systems, FixDisk V1.0 another file recovery program with features DiskSalv dosan't have 30 Lookt gives a 3D appearance to your WorkBench, Clean V1.01 a program to de-fragment memory, Tracer - trace any WB22: Ponts #3 - Several more great brins. These, like the other font disks work great with Opaint and WYSIWYG word processors.

processors.

WB23: Graphics and Plotting - Plot (20b) a threa dimensional mathematical tunction plotter. Can plot any user defined function, BezSur[2] - produce awesome pictures of objects one could turn on a tathe. Can also map iff image tiles onto any surface that it can draw. Now compatible with most 3D packages, and VScreen - makes a virtual screen anywhere, great for OTP

WB24: Animation and Paint - On this disk, DA a complete

commercial quality cell orientated animation package. Movie an "ANIM" player for standard animation. OuickFlix an IFF slide show and cell animation program. Also on this disk are

side show and cell animation program. Also on this das are we programs of good quality. WB25-Educational - On this das are two programs that can generate maps of differing types, World Data Base uses the CIA's data base to generate detailed maps of any entered user global coordinates. Also Paradox a great demonstration

user global coordinates. Also Paradox a great demonstration of Albert Einstein General Theory of Relativity. WB26: Disk Utilities #2 - MrBackup, KwickBackup - two well done utilities to help with harddisk and floppy disk backups, FileMast - a binary file editor, Labelprinter - Oisk label printer with very powerful features. WB27: Nagel - 26 Patrick Nagel pictures of beautiful women. WB28: Graphics and Sound - This disk has several different

WB29: Graphics and Sound - This disk has several different Mandelbrot type programs for generating stunning graphics. Includes, MandelMountains - a realistic terrain generator, Fracgen - generated recursive tractals from user input, Mandelbrot and Tmandel - two fast mandelbrot generators, also Mostra - the best IFF display program to date, will display ALL IFF's including Oynamie HAM, and Sound - a great IFF sound player, will play anything. Try this disk, you'll

love it it. WB33: Circuit Board Design - several terrific routines for the electronic enthusiast, including PCBtool - a circuit board design tool, Cojic.ab - circuit lool reterr, and Moad (1,25) a well done new release of this PD CAO program, now comes with predrawn common circuit components for insertion into

wass. Utilities. - Several well done utilities, some will require moderate inonvetage of a CLI or Shell for setup. Chatter Box-this one will play any user defined sound after any event fields kinsort, mouse click, disk removal...), Artin. - The Angareal time monitor, gives you tull control of the Amiga OS, very powerful program, Helper - help program to make learning the CLI easier, and more!

WB35: 3d Graphics - This disk contains several neat programs to use with your 3d modeling/raytracing programs to use with your 3d modeling/raytracing programs to aid in removing duplicate files from your hard 3df-onts - Full vector font set for use with 3d programs, drive, performing file backups, slirary editing, fast formatting, FontMaker - make 3d fonts from any system font, file recovery, disk track recovery, and forced DISK Make3DS.hape - create 3d shapes from any image, ValLDATION of corrupt disks. Soronia Front Maker - make 3d fonts from any system font, Make3DShape - create 3d shapes from any image, DumptoIFF - create 3d animations preserves pallet, and World3d - a demo program of a front end for use with

WB36: Graphics - On this disk are several programs to create

WB38: Graphics - On this disk are several programs to create stunning graphical images including, MPath - creates swirling galaxy images, Roses - produce an unlimited number of variations of images that a symmetrically similar to a rose, Sim Gen - display those spectacular images as part of your workbenck screen, and RayShade - a very good raytracing program, create your own beautiful 3d graphics. Wb37: Educational - games and puzzles that cover math, geography, spelling, and books. Ages 6 - 15 WB38: Plotting and Graphics - Plotty is the most powerful full featured plotting package. Used by many colleges and universities. A welcome addition to our library! Highly recommended. Plans - a incredibly well done Computer Aided Drafting program, very full featured. Esselator - a program that helps generates fantastic looking, recursive M.C. Ecsher type pictures.

type pictures. WB39: Music - Intuitracker is a German offering of an exquisitely well done program that allows you to play music on your Amiga with CD like controls. Lets you strip out music from your lavorite games or others and include them in your

music lorary.

WB40: Music - "CD on a disk", 90 minutes of modern music on this well presented collection.

WB41: Music - MED an incredibly well done, full featured music editor. Create your own stunning music directly on your the Arniga. Similiar to Sound Tracker but better. Very powerful

the Amiga. Similar to Sound racker but better, very powering easy to use program. WB43:Business - This disk contains Analyticale - probably the most powerful spreadshed program on the Amiga. A full featured spreadshed with many features expected in a featured spreadshed with many features expected in a featured spreadshed with the full manual features. WB46:Clip Art. HighRes elp at with the full motifs embellishments (borders, doddas), people, and



transportation. WB48: Clip Art - HighRes clip art with the following motifs - Holidays, music, medical, and misc. WB49abc: Animation Sampler - On this three disk sample set (courts as two disks) are some of the best animations that set (counts as two disks) are some of the best animations that have been created over the last three years. Several examples of "Movie" type animations some with spectacular raytraced reality (coolroby, watch, spigot and egg), Also several european style or "Demo" animation with incredible graphics and outstanding electronic music (akrilight, copersine, doc, dps2010, impact, and logodemo). These truly show off the creative edge of an Amigal WB50: Animation - Seven of the best european style animations or "Demos", including - scientific 451, subway (a U.S. entrant, also our favorite), sunride, thristdemo, tnight, waves, and woow.

WB51: Animation- On this disk are two excellent movie style

wB51: Animation. On this disk are two excellent movie style animations including ShipFlotation - a futuristic space ship orbiting a surrealistic world (one of the best), and RV-3 - a dpaintill anim of a rather wacked out airplane.

WB53: Graphics- The disk contains C-light - The easiest to use raytracing we have seen to date. This one started out life as a full featured commercial product similar to Sculpt3d. as a full leatured commercial product similar to scinical.

Raytracing programs can generate stunning, realistically shaded objects. Also, sMovie - a full featured video text titler similar to Provideo, Broadcast Titler. Great video scrolling,

similar to Provided, broadcast ittels, creat violeo scrolling, wipes, special effects, and more...

WB54:Printling - This disk contains several routines to hely with the chore of printing, Includes Gothic - Finally a Banner printer for the PDI PrintStudio - a well implemented all-purpose printer-utility with a very comfortable graphic interface and many advanced features, Lila - with ease, print ASCII files to a Post-Scribt printer and many more.

many advanced features, Lila - with ease, print ASCII files to a PostScript printer, and many more. WB55:Application - XCopyIII - a full featured disk copier, make backups of write protected disks. RoadRoute - find the quickest route from one city to another, highway description included, Dlary - a diary program like "Dougy Howard M.D" cal - a calendar program, Magman - a database tailored to maintain records on articles and publications. WB57:Animation - This disk has several "Demo" style animations, including, Bitter, Lolly, Sun5, vertigo, vortex, and xenmorph.

xenmorph. WB59:Business - contains a great, very full featured stock market technical analysis and tracking program, also an appointment calendar, and more wB61:Intermediate Utilities - includes programs to help to drastically decrease flicker in interlace and hi-res modes (antiflick), an Atari-st emulator, an eprom programmer, turn your amiga into an eight channel digital data analyzer or objective and more and more

your ampairs an engine training upper data analyzer or wB62:Midi Utilities - Several useful midi utilities including, programs to transfer to and from several music programs to midi, a midi sysex handler, a midi recorder with timebase, display midi info, file sequence player, and a few scores.

WB66:Icons #2- Lot's of neat icons. Also, several wonderful programs that to let you create your own icons, modify and manipulate icons and info structures.

manipulate icons and into structures.

WB68: Music Utilities - several good utilities for the Amiga music enthusiast, Includes, Noisetracker - a great music creation program, Sonix2MOD - converts sonix to .mod files which then can be used by noisetracker, soundtraker, and MED. SpeakerSim - a speaker design tool demo, Wondersound is an additive harmonic instrument design tool with a separate equation design with a separate equation.

templates in PS form, Post - a full featured post script file display and print utility. WB71: C64 Emulation - The A64 Package is a complete, very powerful, Commodore 64 emulator. WB75: Music - over 100 instruments files (.inst) and sample sound files (.ss) for your music programs. WB76: Applications - This disk contains Stichery - a often requested knitting design program, Lotto - a rather complete lottery tracking and prediction utility. SS5 - this screen capture to the program of the program o

grammar checker. WB78: AV - On this disk are two Amiga Vision programs (bubbler, sync) written by Lou Wallace, chief technical editor of Amiga World. These programs are marvelous examples of Developer with AV.

how bod's with AV. WB79: Home & Business Accounting - Includes Ckbacct - the most complete checkbook accounting program going. LCDGalc - this well done calculator has a very large display and operates from the keyboard or mouse, Mileage master-monitor your automobile mileage with this mileage legislay and operates from the keyboard or mouse, Mileage master-monitor your automobile mileage with this mileage logical crammar - a grammar ohecker, and Worldime - find out what time it is in up to 50 global cities. WB80: Graphics - Raytracing programs generate absolutely sturning realistic looking planes, rockets, buildings..., and surreal images often consisting of highly polished spheres and objects. 3-D Master is the most powerful EASY-TO-USE of it's kind we have seen to date. This is easily botter, and more full featured, than similar commercial programs costing in the hundreds of dollars.

hundreds of dollars.

WB81: Great Applications - DataEasy a very easy to use, database program. Don't let the ease of use fool you, this is a very full featured database program including full printer control for address labels and mail merge applications. Also includes, TypeTut a good typing tutor, RLC a full featured label printer, Banner, a multi-font banner maker, and Budget a home

printer, banner, a multi-font banner maker, and budget a nome accounting in a program. Highly recommended.

WB82:Animations - Four full length, well done "movie" style animations. Including, Coyote, Juggleril, GhostPool, and Mechanix. Two disk set, counts as one!

WB83: Computer Art - this disk has some of the best Amiga generated computer art that we have collected in the past 5 years.

WBB5: Graphics - Contains several programs for manipulating 24 Bit color images (ham-e) and a rather nice lift limage processing package. Image processing package. WBB6: Amiga Vision - Contains the Centurion Press, An Amiga newspaper by Lou Wallace. DD45: AREXX PROGRAMS - This disk contains several useful areax programs and examples, PopCLI4 - The latest of a must have utilify. DD47: Pescal - This disk contains everything needed to program in Pascal. Includes, A68k (1.2) 68000 assembler, Blink linking software and PCO (1.0) a modest Pascal sub-set compiler. compiler:

DD49: C Compiler - contains zc(1.01) almodest Pascal sub-set
DD50: ARex #2 - a must have set of tutorials on ARexx and
several useful examples and utilities for ARexx development.
DD51: Chrust Analysis - Aspice (2.3) A full featured program
for electric circuit analysis. D

SONY Blank Disks

10 for \$8.90 (.89 cents ea) 25 for \$18.90 (.76 cents ea) 50 for \$34.90 (.70 cents ea) 100 for \$68.00 (.68 cents ea)

No shipping charge on USA blank disk orders, Canada and Mexico add \$.15 each, Other foreign add \$.50 ea.

done periodic table program with source, Scientific plotting - over 600k of Lattice C source routines that can be included in

over own or Lattice of source formings that can be included in DD54: Compression - This disk is loaded with ALL of the best file compression programs and aids for the Amiga. Many of the programs can be used by the new user. Includes Arq(2.3), Lharc(1.0), Lharg(1.03), Pkax(1.0), PowerPacker(2.3a) a mire than the by all, 2p(1.0), Warp(2.04), and Zoo(2.0). Also IFForunch an excellent compression for IFF files.

IFFcrunch an excellent compression for IFF files.

DD55: ARP - On this disk you will find the complete ArpRel3.0 release including the full user docs, the full Developers guide. ARP is the official AmigaDOS Resource Project (ARP) release 1.3. ARP makes many improvements to AmigaDOS and makes your system easier to user from the CLI.

DD57: Advanced Utilities - Msh - like Cross-dos, copies files to and from MS-DOS, Pal-NTSC - convert any pal program to NTSC and vice versa, Also several utilities that improve your starting sequence after 35 may programs.

NISC afto Vice visia, Niso several unities inta improve your startup-sequence, plus 25 more programs.

DD62: Basic and Xscheme - Cursor - a full featured Amiga Basic compiler, sbasic and ftext - several wonderful routines to help in basic programers, and Xscheme - an interpreted object

help in basic programmers, and Xscheme - an interpreted object oriented language.

DD64 Amiga Programmers Manual - The fully comprehensive Amiga programming manual with source code examples and easy to understand futorials!

DD65 C futorials - Several well done futorials on how to program the Amiga. Includes tutorials and working examples on Device drivers. IFF reads and writes, Sound implementation, Arcade game design and implementation, Double Buffering, and others. A must have for Amiga Programmers.

DB65 Programming ToolBox - Many programs to help in

programmers.

DB66 Programming ToolBox - Many programs to help in your development efforts (most for C some for basic) Includes programs to generate requesters, an incredible spritemaker toolbox, to greatly aid compiling, convert DPaint brushes to C structures, a great library manager, and many more wonderful time savers!

DD69: Advanced Utilities - SerNet and ParNet - Connect two Amiga's and share resources, MemMonitor - Similar to WFrag but greatly improved, Selector - put menus on your workbench

but greatly improved. Selector - put menus on your workbench screen, and more.

DD71:C compiler - This disk contains Dice, Matthew Dillor's full featured, powerful C compiler and environment system.

DD72:VT Emulators - Contains three powerful, full featured with many advanced features including kermit, xmodem and tektronix protocols. VaxTerm, VLT, and more.

DD77: Fortran - Contains a full featured FORTRAN77 environmental development system. Also contains EzAsm a strongly macro dependent 68000 assembler.

DD78: Menus & System Enhancements - Several neat programs to ald in launching programs from special icons (Next computer style), adding WorkBench menus and more. Also contains many useful programs to determine operation system configuration, memory usage, load and many other important utilizations.

important utilizations.

DD52: Scientific - Includes Elements - an incredibly well	% ≪		
Please send me the following: Enter disk id (Ex. DD17, FD5, WB3)	Total disks Disked based Ant	x \$each catalog (add \$2.50) ii-Virus (add \$19.95)	\$
		Blank Disks#idd 7.00% sales tax	\$
	Payment Enclosed Please charge my	Foreign Shipping Handling	\$
	Visa Master charge	Total Due	\$
Account#	Evn	Following day shipping	in mos

Account# cases. No shipping charges within USA, Canada add \$.25 each, Foreign add \$.50 per disk for air Signature Name mail delivery. Payment in US funds. A minimum of \$20.00 Address required on credit card orders. Phone (

DevWare, 12528 Kirkham Court, Suite 11-A16, Poway, CA 92064 Orders Only Please! 800 879-0759 Support 619 679-2825 Fax 619 679-2887

Citv

InfoMarket

Authorized Amiga Service Center

Latest release dete for 2.0 operating system is May 1991. If you are on our list, we will be calling you with full details. If not, please give us a call so that we may give you full details end put you on our preorder list. This will assure that you will be one of the first in the

1.3 ROM Chip\$ 29.00	A500 Keyboard 99.00
8520 CIA Chip16.50	A2000 Power Supply 139.00
Fatter Agnus Chip 1MB90.00	A500 Repl. Drive w/ s/o94.95
A500 Replace, Orive119.00	Fattest Agnus Chip 2MB95.00
GVP 40 Meg	Agnus Extractor by Com16.95
Impact Plus599.00	Denise Chip49.00
All RAM Chips in StockCell	Ouantum 105S H.O449.00
Paule Chip58.00	Sygvest 44MB
A2000 Internel Orive89.00	Removeable499.00
Ouantum 52S H.O389.00	Sygvest 44MB Cartridge88.00
GVP 8/0 Hard Card 0K239.00	Gary IC Chip17.00
Epyx 500XJ Joystick12.00	80 Meg Orive for
A500 HO Power Supply94.00	GVP Acc469.00
A2000 Khd from Com 118.00	

A2000 Kbd from Com.....1184.W
Over 600 products in etock for immediate shipping. Please call
us. Wa probably have what you need. We do repairs on Amiga
computers with 2–4 day turneround. 8.500 — \$125.5(1)
A2000 — \$190+S/H. Cell for shipping on other items.

C= Software Hut, Inc. To order call (800) 848-0079 2534 S. Broad St.

Ribbons:

Price Each

2534 S. Broad St. In PA or for Information call (215) 462-2268 use call for complete details on these repairs and to get an authorization number.

AAMIGA WAREHOUSE

The Memory Specialist

ICD MEMORY ADSPEED \$218.75 FLICKER FREE \$319.00 ADSCSI 2080 2MEGS \$269.00 ADRAM 2000 2MEGS \$205.95 Novia 20i wonepasts. Price: \$449.00 teams 2.10° Med Drie worker DRAMS A3000 MEMORY STATIC ZIPS 256X4 - 80 \$7.50 1X4 - 80 \$37.00 Kwickstart W/1.3 \$96.95 Insider II W/11/2megs \$289.95 MultiStart II awar your Roma \$63.95 MegAChip 2000 \$333.00 1X8 - 80 \$47.50 1X8 - 70 \$56.95 4X8 - 80 \$225.00 W/Aprile Witness Street of Chip Ren! BattDlak W/O Meth \$239.50

GOLDENIMAGE ®

HAND SCANNER \$79.95 \$245.00

Onto-Mech Mouse Optical Mouse \$57 RC500 501 Clone with switch \$48

Hard Drives onnor 100meg 3 1/2" 19ms 8435 onnor 40meg 3 1/2" 28ms \$225 axtor 50meg 3 1/2" 28ms \$255 FOR SOFTWARE GOTO THE REST.
FOR HARDWARE CALL THE BEST!!"

Aamiga Warehouse 1-800-942-9505 714-283-0499 VISA COD

Circle 295 On Reader Service Card.

FREE - 6 DISKS - FREE **FULL OF SOLID GOLD HITS**

TRY US!

Get 6/3.5" disks full of our best selling NO VIRUS software for AMIGA® COMPUTERS.

Animation - Business - Games Education - Utilities - Finance

PAY ONLY \$5.00 SHIPPING/HANDLING

SATISFACTION GUARANTEED SINCE 1985 CREDIT CARDS ONLY - ORDER TODAY SMC SOFTWARE PUBLISHERS

619 931-8111

Circle 340 On Reader Service Card.

Circle 305 On Reader Service Card.

Color Ribbons & Paper

SIZZLING SOFTWARE



We offer the Best in Public Domain and Adult-Orlanted Software Over 250 Disks in Stock, Prices as Low as \$3 per Disk. Free Brochures. Visa, MasterCard Accepted. Our Disks are Loaded! 3-Disk Adult Sampler: Send \$10, Signed Statement of Age (18+) to:

> **CLEARLIGHT SOFTWARE** PO BOX 1411, DEPT. A MILWAUKEE, WI 53201

Black Color T-Shirt 5.95 7.50

Brother M1109 Citizen GSX 140 4.00 5.00 Citizen GSX 140 4C Okidata 192 5.00 5.00 Panasonic 1124 7.50 Seikosha SP1600 4.50 6.00 7.50 Star NX1000 3.50 4.50 6.75 Star NX1000 4C

Colore: Black, Red, Blue, Green, Brown, Purple, Yellow T-Shirt (Heat Trenefer Ribbon) Colors: Black, Red, Blue, Green,

Brown, Purple, Yellow Minimum orders \$25.00. Minimum S&H \$4.50. Call for other ribbons and supplies. Price & spec. are subject to change without notice.

RAMCO COMPUTER SUPPLIES PO Box 475, Manteno, IL 60950 USA USA (800) 522-6922 or (815) 468-8081 Canada (800) 621-5444



150 WATT POWER SUPPLY For AMIGA 500. WILL POWER 5 HARD OR FLOPPY ORIVES! \$129.95



For ALL COMMODORES & AMIGAS Joystick/Mouse Switch CONNECT 2 DEVICES TO ONE PORT & SELECT with SWITCH. AMERICAN MADE

MODEL PP-256



\$149.95

CALL YOUR DEALER OR MICRO R&D NOW! 308-745-1243 FAX 308-745-1246 137 NO. 7th ST., LOUP CITY, NEBRASKA 68853

NATIONAL DISKETTES

SONY 3.5" DSDD .51 GENERIC 3.5" DSDD .39 (MIN. 100)

800-345-8619 OR 415-490-4163

CALL FOR BEST PRICING ON ALL DISERTIES

Now On Video!! TODD RUNDGREN SPEAKS

Your chance to hear the wild inside story of how Todd Rundgren made his sensational new Amiga-based MTV video. See Rundgren's Amiga-based MTV video. See Rundgren's comprehensive, witty, hard-hitting story of his personal discoveries and dispair, triumphs and crashes using the latest in Amiga hardware and software. Learn for yourself his technical breakthroughs and inside secrets! VHS, 60 mins. Professionally produced.

Don't miss either of these crucial reports!

Used Amiga Software

\$8.00

100% Guaranteed! Video, Games, Business, ! Educational, Art & Music

Grab a seat and be... FRONT ROW WITH THE EXPERTS!

Brilliant 2 hour video of L.A. SIGGRAPH'S Amiga Day marathon, jam-packed with up-close demonstrations & discussions of: VIOEO TOASTER", CDTV, DISNEY ANIMATION STUDIO, IMAGINE, DCTV and UNIX. Great visuals! Interviews with hot artists and developers including: BRUMMBAER, STEVE SEGAL, REICHART VON WOLFSHIELO, BRAD SCHENCK, VICTOR OSAKA. On VHS.

Call or Write:

(713) 548-8016

For a Free Catalog

Mission Control Computers 3535 Bellaire Blvd., Ste. 19

Houston, TX 77025

Now only \$19.95 each+\$4 S/H each, Check or MO to:



LEARN LIGHTWAVE

Tutorial video provides instructional help and 60 minute reference section on surfaces. Includes Disk. Send \$39.95 + \$4.00 S & H to: 3 Leaf Productions 500 Lake Marina Drive Suite 214 · New Orleans, LA · 70124

(504) 467-7171

Sweet Pea Productions • PO Box 912 • Los Angeles, CA 90290 Or call our NEW toll free number (800) 235-4922 with your Visa / MC number ready

MORE MEMORY FOR LESS

NEW for Amiga 3000 STATIC ZIPS 1 meg x 4 -

32 Pcs. \$35.00 ea. FPU Math Co-processor \$50.00 each

\$34.95 each

Panasonic Printe 1124, 1524, 1624, 1180, 1191

32K Buffer Chip

Memory Board **HP Laser Printer** 1 meg \$115, 2 meg \$165, 4 meg \$249

MEMORY WORLD

Street Rd. & Bristol Pike • Plaza II. Suite 134 · Bensalem, PA 19020 Attn: Amiga Dept.



215-244-7930 Fax 215-244-7932

Add \$3.00 S&H Add \$6.00 2nd Oay Add \$4.00 COO VISA / MC / Check / COD

94 June 1991

InfoMarket

VISIONSOFT

PO Box 22517 · Carmel, CA 93922

MEMORY	UNIT	2MB	4MB	8MB
1 x 8-80 SIMM	\$49.00	98	192	376
256 x 4-80	6.00	96	192	368
1 x 1-80	6,00	96	192	368
256 X 1-80	1.75	112	192	384
1 x 4-80 SC ZIP	35.00] —	280	520
ICD AdRAM 540	99	189	285	_
ICD AdRAM 2080	119	199	279	429
RAMWORKS 2000	109	189	269	429
IVS META 4	-	259	349	
GVP II/8 SCSI HC	209	305	397	567
AdSCSI 2080	199	295	387	557

TRUMP PRO A500/49	M469	AdIDE/	TEAC 43	M 379
DL EXPRESS/MNP/FA	X205	AdSPEE	D	239
AE 880K FLOPPY DRI	VE95	AdRAM	560D/2N	A 199
SUPRAMODEM 2400	99	AdSCSI	2000	139
SUPRA500XP/40M/512	K539	BIGFOO	OT POWE	ER95

ORDERS 800-735-2633 Visa / MC / COD Information: 408-626-2633 Fax 408-626-0532 Call for quantity pricing.

Circle 304 On Reader Service Card.

AMAZING

1441 E. Fletcher Ave. Tampa, FL. 33612

AmigaVision \$49.96

Commodore Mouse with pad \$34.96

Order Only Line BBS Tech Support (800) 323-6511 (813) 977-3940 (813) 977-6511

FREE SHIPPING!

Circle 115 On Reader Service Card.

Special Offer on Amiga 1000 Computers

Amiga 1000 Computer..... Amiga 1084 Monitor..... \$199.95 1010 Disk Drive \$ 69.95

Through a special purchase with Commodore Business Machines, we have a number of A1000 computers, 1010 drives and 1084 monitors in stock. They are refurbished by Commodore and are in like new shape with all cables, manuals, warranty card, etc. They come with a full 90 day warranty. Please order early as quantities are limited. We also are carrying various expansion boards for the A1000. Please call for details.

Software Hut, Inc. To order call (800) 848-079 (800) 848-079 (Philadelphia, PA 19145 call (215) 462-2268

se call for complete details on these repairs and to get an authorization

Circle 261 On Reader Service Card.

MEMORY FOR LESS D RAM BLOWOUT!! 256 x 1 150n.s...\$ 1.50 ea. 256 x 1 120n.s.... 2.00 ea. CPUs 68000 16 Mhz\$ 35.00

1 meg x 1 80n.s... 5.95 ea. 256 x 4 100n.s.... 5.75 ea. 68010 8/10 Mhz35.00 68020 16 Mhz75.00 256 x 4 80n.s..... 5.95 ea. 256 x 4 80n.s. zips 6.95 ea. 20 Mhz109.00 33 Mhz199.00 256 x 4 100n.s. zips 6.50 ea. 68030 25 Mhz289.00 64 x 4 100n.s..... 3.00 ea. Paula / Denise56.50 ea. 50 Mhz375.00 Math Co'a 1 meg x 8 Simm 80ns49.95 ea. ZIP Sockets Available 68881 12 Mhz69.00 16 Mhz75.00 FATTER AGNUS95.00 1.3 Kickstart ROM ...29.95 68882 25 Mhz225.00

For Amiga 3000 1 x 4 Static Zips......34.95

256 x 4 80n.s Static Zips .

\$199

33 Mhz275.00 50 Mhz All Crystals 10.00 ea APO/FPO, AK & HI, Foreign 7.50 Call for shipping charges ½ meg 1 meg 1½ meg 2 meg \$215 \$230 \$229 — \$235 \$270 \$309 \$319 SPIRIT 80ARDS 1/₂ meg \$215 \$199

SIN 500 X-RAM 500/1000 \$219 MEMORY WORLD MEMORT VVOILE Street Rd. & Bristol Pike Plaza II, Suite 134 Bensalem, PA 19020

Attn: Amiga Oept.

IN 1000

215-244-7930 FAX 215-244-7932 Add \$3.00 S&H Add \$4.00 COD VISA / MC / CHECK / COD

\$339

Circle 287 On Reader Service Card.

THE NATIONS FIRST AMIGA DEALER

3000 PRODUCTS AVAILABLE

CALL TOLL FREE

2130 Kingston Court - Suite C Atlanta, GA 30367-8952 (404) 952-5547

Circle 61 On Reader Service Card,

Protext[™]

Protext is a fully integrated word processing package which combines the features of e word processor, text editor, and a command line linterpreter ell in one easy to use package. Profext includes features found only in word processing packages costing severel hundred dollers more. Some of these features ere: Spell checking with word lookup and a user definable

- dictionery.

 Text pages are autometically formetted as they are entered and formatted.

- entered and tormatted. Taxt pages are shown exactly as they are printed. Automatic placement of footnotes, headers, footers and page numbering. Advanced mell merge facility. Advanced mell merge facility in the form most desktop functions without levening Protext. Macro functions are provided to speed operations of a
- \$199.95

Michiron 3201 DRIMMOND BLAZA



Circle 178 On Reader Service Card.

NEW!! ULTRA HIGH RESOLUTION

from COLOR POSTSCRIPT · 24-BIT IFF · HAM · Standard IFF

Over 4000-line Resolution • NO Scanlines • NO Curvature Distortion • Brilliant Color

HAMMOND PHOTOGRAPHIC SERVICES (213) 390-3010

11280 Washington Place Culver City, California 90230

CANADIAN **ORDER** MAIL

DANDAM SOFTWARE PST 1987

CALL FOR **FREE** CATALOGUE

EST

1-800-265-9576 (519) 974-3011 Fax: (519) 974-6643

A500 HD 40MG \$599.95 . \$CDN\$. AD SPEED \$289.95 8408 Wyandotte St. E., Windsor, Ont. CANADA, N8S 1T6

The Relational Database for Professional Videographers

Create, Customize & Print Contracta, Schedules, Packagea, Reports, Receipts, Craw Sheats, Editor Sheete, Tape Labele, Directions to Job

Track

Cuetomers, Appointmente, Payments, Texes, Cell Backe, Joba, Equipment, Video Crewa, Music & Graphics

Enjoy Easy Operation, Freedom from Paparwork, Total Control, Free Tech Support, Bug-free Guerantaa

Only \$399.95 - Includes Superbese 3.02 Superbese 4 Competibla - Cell Mr. Herdwera 516-234-8110 - P.O. Box 148 C.I., N.Y. 11722 A.M.U.G. BBS 516-234-6046

Circle 297 On Reader Service Card

The Last Word

AW's letters column has changed its name, but still welcomes your kudos and complaints.

WHERE, OH WHERE IS A1000 SUPPORT?

After reading the first lines of Bruce Cohen's letter ("Repartee," Mar. '91), I had to skip to the end to be sure it wasn't a letter I myself had penned some time ago. The situation for Amiga 1000 owners has gone beyond mere lack of support. The standard response to my search for information about the A1000 is either disbelief that I still own one or outright laughter. An article (or two or three) covering A1000 upgrade options would be much appreciated.

To Mr. Cohen: You are definitely not alone!

Elizabeth Guffey Yarmouth, Maine

2.0 COMPATIBILITY

As an A3000 owner since last June, I couldn't agree more with Doug Barney's comments on the Amiga 3000 and compatibility issues. I believe your software and hardware reviews should indicate whether the product operates on an A3000 using 2.0. This is especially true for games! It is incredibly frustrating to read a review of a great product and not know if it will run on your machine.

Douglas Nakakihara Simi Valley, Calif.

GET WITH IT, CBM

I just called Commodore to find out how to get the new ROM chip for my A3000. Their customer-support recording was rattled off so fast that I had to call back twice to catch the other number to call.

When I finally got through to the right number, I was advised that since I bought my computer from Montgomery Grant, I would get no support whatsoever from Commodore. I am apparently supposed to know who is an authorized dealer, who is not, and

what the implications are. That stinks! Commodore built it. Commodore should support it!

R. Langley Colorado Springs, Colo.

A3000 CONTEST OPEN TO ALL

O.K., I give up. I just received the April issue in the mail. The first thing that caught my eye was the banner in the upper left-hand corner stating "WIN an AMIGA 3000! See Ad on p. 81." I feverishly turned to page 81

"That stinks!
Commodore built it.
Commodore should
support it!"

and found only a subscription ad for *AmigaWorld* Tool Chest. I looked left, I looked right, I tore through the entire issue and found nothing even mentioning the 3000. So I gave up. Where was it?

Then I went to a local newsstand and *did* find the ad. Is this contest only available to non-subscribers? If so, why? Your subscribers are the heart of the publication. We are hard-core supporters of the Amiga and its various products and publications. Any contest of this kind, if it must be limited, should be limited to the serious readers: the subscribers.

Jeffrey Caulk Pensacola, Florida

During February, March and April, Amiga-World ran a contest that newsstand buyers of all three issues could enter to win an Amiga 3000. Unfortunately, the contest banner appeared by error on the cover of April's subscriber copies, with no further information contained inside the issue. We have received many complaints like Jeffrey Caulk's from subscribers who are justifiably angry, and we have decided to open the contest to subscribers. You must act fast, however, because the deadline is June 15, 1991. To enter, simply send off a $31/2 \times 5$ -inch postcard with your name and address to: AmigaWorld Frequent Buyers Sweepstakes, PO Box 802, 80 Elm Street, Peterborough, NH 03458.

-Editors

THE RENAISSANCE MACHINE

After reading Bryant Hayward's Soapbox essay ("Playing Big Blue's Game," April '91, p. 112), I started thinking about the many times I have seen or heard the Amiga characterized as a game machine, not a business machine. Or a productivity machine, not an educational machine. Or a graphic paint machine, not a desktop-publishing machine. Or whatever. The point is that no matter what you buy an Amiga to do, it does that task well.

So then, why not advertise the Amiga as a serious business computer that also knows how to have fun, that is at once productive and entertaining? After all, variety is the spice of life.

Lance Thompson Altoona, Iowa

PRICE OF THE TOWER

In last month's article on the Tower version of the A3000, we were unable to include the price because Commodore had not yet divulged it. They still haven't. As soon as they do, we'll let you know.

—Editors

Send your letters to: The Last Word, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458. Letters may be edited for space and clarity. ■

If YouWere Ever Bitten By A Spider, Here's Your Chance To Get Even.



Those killer are back. And

spiders from the hit horror movie they're just dying to sink their more helpless victims. "Arachnophobia" poisonous fangs



Match

creatures.

into a few

wits with these deadly,

They're hiding, waiting to pe

highly intelligent pounce when you

A variety

least expect them. Eight levels of difficulty. of anti-spider weaponry. Over 100 locations. Thousands of rooms to explore.

Bring the experience to life with Disney's

Sound Source.* Real music, speech and sound effects.

If you're smart enough, quick enough, and able to wipe out a

few thousand of the venomous vermin, you might just make it

to the final confrontation in the Amazon Jungle. And

DISNEP

even the score, once and for all.

S O F T W A R E

a Jungle. And d for all.



© Disney

Just The Facts:

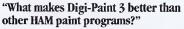
What Makes Digi-Paint 3 the <u>Ultimate</u> Paint Program?

"Finding the best paint program for your Amiga can be confusing, but once you bave the facts it's simple."

> Laura Longfellow Sales Manager NewTek Inc.

"Why is Digi-Paint 3 better than DeluxePaint III™?"

Digi-Paint 3 works in the Amiga's powerful Hold And Modify (HAM) mode, which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 64 colors. Advanced features available in Digi-Paint 3—including Colorizing, Variable Transparency, Shading, Lighten, Darken and Range Painting—are simply not possible in Deluxe Paint III due to its 64 color limitation. AMIGAWORLD warns, "Competitors may want to head back to the drawing board, because Digi-Paint 3 is



hard to beat!"

Digi-Paint 3 is the only Amiga paint program written in I00% assembly language. Although challenging to program (taking up to I0 times longer than other computer languages), it's the only way to achieve the incredible speed found in Digi-Paint 3. AMIGAWORLD calls it "the fastest HAM paint program yet" and AMIGA SENTRY estimates it's, "6-10 times faster" than the nearest contender.

Other advanced features found *only* in Digi-Paint 3 include: antialiased texture mapping, anti-aliased fonts, ARexx support, 1024 x 1024 super bitmaps with auto-scrolling and dithering to 30 bits per pixel (over a billion colors internally, giving you tens of thousands of apparent colors). COMPUTER SHOPPER magazine reports "Digi-Paint 3 is without a doubt the most advanced HAM paint program to date!"



Digi-Paint 3, Digi-View, and Transfer 24 are trademarks of NewTek Inc. DeluxePaint III is a trademark of Electronic Arts. All brand and product names are trademarks of their respective holders



"But is Digi-Paint 3 easy to use?"

I've learned that no matter how powerful a program is, if it's not friendly it's not worth my time. We designed Digi-Paint 3 with all users in mind—from the beginner just starting out with computers, to the "power user" who demands the most advanced features possible. The spiral-bound manual contains a step-by-step Guided Tour, II hands-on tutorials, a color coded reference card, and almost one hundred example photos.

Digi-Paint 3's intuitive user interface was created by Digi-View designer (and NewTek Founder) Tim Jenison and renowned Amiga artist Jim Sachs. It features innovative "Dashboard" controls which AMIGAWORLD regards as "a joy to use" and "very easy to learn and understand". INFO MAGAZINE says the new interface "looks great and works logically".



"What is the Transfer 24 program included with Digi-Paint 3?"

Transfer 24 is a separate program disk included in the Digi-Paint 3 package, allowing you to alter any picture's brightness, color saturation, contrast, hue and sharpness, almost as easily as adjusting the controls on your television set. Transfer 24 also lets you modify the size, palette, and resolution of any picture. These powerful features, known as "Image Processing", give you incredible control over vour final artwork. You can also save your image in any of the Amiga's 24 resolution modes (up to 768x480) making it compatible with all Amiga graphics software. AX MAGAZINE notes that "Transfer 24 gives you even more options as to the final appearance of your work". AMIGAWORLD declares, "Transfer 24 is great for making overall changes."



"What technical support does NewTek offer?"

Digi-Paint 3 has one other thing you won't find in any ordinary paint program: a toll-free help line. If you should have any questions while using Digi-Paint 3, you're not on your own. Call NewTek's technical support team at I-800-736-7617 Monday through Friday, 8 am -7 pm Central Time.

Digi-Paint 3 is available now at your local Amiga dealer or call 1-800-843-8934 or 1-913-354-1146.

NEWTEK INCORPORATED

Circle 119 on Reader Service card.